SITE INSPECTION REPORT FOR MILES ROAD LANDFILL TXD980697072 WA # 25-6JZZ

PART B

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1/17/93 Date

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SITE INSPECTION REPORT FOR MILES ROAD LANDFILL TXD980697072 WA # 25-6JZZ

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SITE INSPECTION REPORT (PART B) FOR MILES ROAD LANDFILL TXD980697072 WA # 25-6JZZ

3.0 SAMPLING INSPECTION RESULTS

Analytical Results Chronology

Fluor Daniel conducted a sampling event that occurred on June 21st and July 12th, 1993. No previous sampling events have been conducted at the site. The focus of the sampling effort was to determine if elevated concentration levels of metals, organics, or cyanides exist at the site. The sampling strategy was to collect near surface (depth 3-6 inches) soil samples at the site and surrounding the site, and to collect ground water/drinking water samples from municipal wells near the site. The sample location map is presented as Figure 3. Samples collected during the field work phase of the SI were shipped to Southwest Labs of Oklahoma (soil inorganic samples), Clayton Environmental Consultants (soil organic samples), and USEPA Houston Office (drinking water samples). Southwest Labs of Oklahoma and Clayton Environmental Consultants are participants in the Contract Laboratory Program (CLP). Analytical results were received from the CLP in Fluor Daniel's Dallas office on August 6 and September 7, 1993 for the inorganic and organic soil samples, respectively. The data validation packages for the inorganic and organic soil sample analyses were completed on October 28, 1993. Analytical results for the drinking water samples were received from USEPA on August 16, 1993.

Quality Control Procedures

During sample collection, Fluor Daniel followed the previously approved sampling and quality assurance project plans for sampling, packaging and shipping samples to the CLP. The analytical packages were evaluated with respect to data completeness and contractual compliance by the Houston EPA Environmental Services Division Surveillance Branch. The soil sample data were then validated by Fluor Daniel to assess the quality assurance/quality control procedures utilized by the laboratory. Data validation was in accordance with the most current USEPA Data Validation Guidelines and regional instructions. The data validation package is included as Attachment 4.

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The validation process involves scrutinizing various aspects of analytical procedures to fully assess data quality. Analytical procedures reviewed during the validation process include; 1) laboratory holding time, 2) laboratory equipment calibrations, 3) blanks, 4) interference check, 5) IPC serial dilutions, 6) duplicates, 7) matrix spike recovery, 8) field duplicate samples, 8) internal standards performance, 9) sample verification, 10) compound quantitation and reported detection limits, and 12) system performance. Based on the review of the various aspects of data analysis, the data validator may assign data qualifiers as necessary. The following code letters and the associated definitions are used as data validation qualifiers in Attachment 4:

- "B" Analyte was detected in the method blank for that sample (organic samples). Analyte detected in the method blank at concentrations above the Instrument Detection Limit (IDL) but below the Contract Required Quantitation Limit (CRQL) (inorganic samples).
- "U" An analysis of the analyte was made, but was not detected. The associated numerical value is the sample quantitation limit.
- "J" The associated numerical value is an estimated quantity.
- "UJ" An analysis of the analyte was made, but was not detected. The sample quantitation limit is an estimated quantity.
- "N J" Presumptive evidence of compound presence.
- "R" Data for analyte is unusable.

If no detectable quantities of an analyte were found in any of the samples, then blank spaces for that analyte may be shown in the data validation tables.

The results from the water samples analyzed by USEPA are not required to undergo data validation. The only qualifier given for the EPA data is "ND" which stands for not detected above the given detection limit. The USEPA data results are included as Attachment 5.

Summary Tables

The Sample Summary Table (Table 2) of this Addendum summarizes sample numbers, matrices and locations. The Summary of Inorganic Soil Sample Results Table (Table 3) summarizes station location, TAL inorganic concentrations, standard CLP qualifiers and comments relating results to background concentrations. The Summary of Organic Soil Sample Results Table (Table 4) summarizes station location, TCL organic concentrations, standard CLP qualifiers and comments relating results to background concentrations. The Summary of Ground Water Sample Results Table (Table 5) summarizes station location, TAL inorganic concentrations, and comments relating results to background concentrations.

Discussion of Results

Soil Samples

A total of 12 soil matrix samples were collected and analyzed for Target Analyte List (TAL) metals and cyanide, and Target Compound List (TCL) organic compounds (volatile organics, semivolatile organics, and PCB & Pesticides). Sample analyses indicate that there are no elevated levels of volatile organics or semivolatile organics in the surface soils surrounding the site, and no elevated concentrations of any TCL organics in the drinking water wells near the site. There were eight TAL metals and six TCL pesticides that were found above their respective BBCs for on-site soils (summarized in Tables 3 and 4, respectively). Additionally, there were four TAL metals found to be above their respective BBCs at the apparent down gradien (5) (6) Woll (summarized in Table 5). Background sample results and three times background results are also presented for comparison.

The background soil samples were taken as part of the concurrent Castle Drive and Miles Road Landfill (TXD980750368) SI. Two background soil samples were collected. The background soil sample data is provided as Attachment 6. Analyte concentrations that represent the three times the average background concentration are designated in this report as Background Benchmark Concentrations (BBC). When the background samples

did not irrdicate a concentration above the detection limit, the detection limit is designated as the BBC. When analytical data for one of these background soil samples notes that an analyte was not detected and the other background soil sample indicates that an analyte is present at a given concentration, then for the purposes of BBC determination the three times the concentration of the sample with the known concentration is used as the BBC.

TAL metals that exceeded the BBC, except for nickel, were only observed in soil samples SS02, SS03, SS04 and SS05. The soil sample TAL metals that exceeded the BBC are cadmium, chromium, copper, lead, mercury, nickel, silver and zinc. The BBC was also exceeded for calcium; however, calcium is not listed in the Superfund Chemical Data Matrix (SCDM) and it is not presented in Table 3. The highest exceedance for each of the inorganic analytes occurred in sample SS03, except for nickel (SS07). Samples SS04 and SS05 were sample matrix duplicates and each had exceedances for cadmium, copper and zinc. There was no significant geographical pattern of widespread BBC exceedances found at the site; however sample SS03 did have a significant number of analytes with exceedances.

Analytes that exceeded the BBC for nickel were observed at sample locations SS01, SS03, SS06, and SS07. These exceedances are due to the background sample being below the detection limit (21 ppm). The range of concentrations for the samples with exceedances is 22.0 to 24.1 ppm. The background soil concentration range for nickel in the northeastern Texas area is generally between 10 and 30 ppm (Ref. 24). The nickel soil concentration range for soils in the Garland area have been found to range from 11 to 30 ppm (Refs. 25, 26, 27) Therefore, the nickel concentrations found at this site are considered within the normal background concentration range.

No volatile organic or semivolatile organic compounds were found to exceed the detection limit (BBC) of the analytical tests used. Six pesticides were found to exceed the detection limit (BBC) of the analytical tests used. These six pesticides are heptachlor epoxide, Dieldrin, 4,4'-DDE, 4,4'-DDD, alpha-chlordane, and gamma-chlordane. Exceedances were found in samples SS03, SS04 and SS05. The highest exceedances for

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each of the pesticides occurred at sample location SS03. Sample SS04 and sample SS05, which was the field method duplicate of sample SS04, had exceedances for 4,4'-DDD (SS04 only) and alpha- and gamma-chlordane. There was no significant pattern of widespread BBC exceedances found at the site; however, similar to the inorganic result sample location SS03 had the highest number of analytes with exceedances. Samples SS03 and SS04 & SS05 were not taken in order, therefore, the potential for sample cross contamination is negligible.

The following known Tentatively Identified Compounds (TICs) were identified in the organic analysis of the soil samples: n-methyl 1-octanamine; 2-pentanone, 4-hydroxy-4-met[hyl] (diacetone alcohol); hydroperoxide, 1,1-dimethyl[ethyl] (tert butyl-hydroperoxide); 4-penten-2-ol; 2-methyl-2,3-pentadiol; 2-butanol, 1-methoxy; octane, 2,4,6-trimethyl; octacosane; 3-heptanone; hexanedioic acid, mono(2-eth[yl?]); 2-propanoic acid, 2-methyl-,[?]; glycine, n-methyl-n-(1,oxodo[?]); 3-hydroxy-2-pentanone; ethanol, 2,2'-oxybis-diace[?]; tetradecane; hexanedioic acid, dioctyl es[ter?]; and pentadecane. A few of the TIC data are qualified as "J" and all of the rest are qualified as "NJ" or "BNJ". These TICs, as determined by CAS number review, are not substances that are listed in the SCDM.

Drinking Water Samples

A total of four ground water/drinking water samples were collected from two separate locations and analyzed for TAL metals and cyanide, and TCL organic compounds (volatile organics, semi-volatile organics, and PCB/Pesticides). Data are presented in summary Table 5 for four metals. Background sample results and three times background results are also presented for comparison. Analyte concentrations that represent the three times the background concentration are designated in this report as Background Benchmark Concentrations (BBC). When the background samples did not indicate a concentration above the detection limit, the detection limit is designated as the BBC.

Copper, magnesium, manganese, and zinc were found to exceed their BBCs for water samples collected at the (b) (6) Well (STA13 and STA14). The (b) (6) Well sample was collected at a tap; therefore, the copper and zinc concentrations could be from pipe or

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fixture corrosion (copper or galvanized pipes or brass fixtures). Additionally, potassium was found to be above the BBC for one of the was found to be above the BBC for one of the was found to be above the BBC for one of the was found to be above the BBC for one of the was found in the Table 5. All other metal and cyanide contents were under the BBCs determined from the background sample collected at the was following metals: aluminum, barium, calcium, iron, magnesium and sodium. None of the inorganic contaminants detected in any of the water samples are above their respective drinking water Maximum Contaminant Limits (MCLs). Copper and zinc were found to be above their respective BBCs at the site and at the well.

No TCL organics, except for a single incidence (STA14) of bis-(2-Ethylhexyl)Phthalate (44 ug/l), were detected at either of the two well sites. Bis-(2-F¹hylhexyl)Phthalate is a common lab contaminate. Additionally, the bis-(2-Ethylhexyl)Phthalate result was not repeated in the duplicate (D) (6) Well sample (STA13). The (5) (6) Well (STA16) was noted to have one unknown semivolatile TIC with an estimated concentration of 8 ug/l. No other volatile organic, semivolatile organic, or PCB/Pesticide compounds were found at either well. No TCL organics were indicated above BBC in the drinking water samples collected from sources adjacent to the site.

Summary

The Miles Road Landfill is located adjacent to Miles Road in northeast Garland, Dallas County, Texas. The site was leased by the City of Garland for use as a municipal landfill between February 1973 to June 1975 (Ref. 2). The landfill portion of the site is owned by Vaughn McCallum (Ref. 5) and is approximately 30 acres in size (Ref. 1). The site is now being used as a sheep pasture and for horse feed (coastal grass) production.

No known prior sampling has been conducted at the site or from the drinking water wells adjacent to the site. Analytical results from the SI sampling effort are summarized in Tables 3, 4, and 5. Sample analyses indicate that there are no elevated levels of volatile organics or semi-volatile organics in the surface soils surrounding the site or in the drinking water wells near the site. No BBC exceedances were found in the samples taken

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from the surface water pathway. Eight metals and six pesticides were found above their respective BBCs for on-site soils. Additionally, there were four metals found to be above their respective BBCs at the down gradien (D) (6) Vell. Two of these metals (magnesium and manganese) were not found in soil samples and are therefore not considered attributable to the site. Additionally, nickel BBC exceedances for the site have been determined to be within the normal range of background concentrations for soils in the Garland area.

No pattern of exceedance was found on-site. While sample location SS03 was found to have the most significant inorganic and pesticide exceedances surrounding samples SS02, SS06 and SS07 (Figure 3) did not have exceedances of these same compounds. In fact the other sampling location (SS04 & SS05) that did have similar exceedances was approximately 1000 feet south of SS03.

The ground water migration pathway is of minor concern considering the minimal ground water use in the area and the low soil permability in the site area. Elevated concentrations of copper, magnesium, manganese and zinc were found in the down gradien (b) (6) Vell. These metals were found in low concentrations (i.e. under respective MCLs) and are addressed as having a minimal impact on the ground water pathway. Additionally, these metals may not be attributable to the site. The manganese and magnesium, which were not found above the BBC concentrations for on-site soils, are not considered attributable to the site. The copper and zinc, which were found to be in exceedance for on-site soil samples, are considered to be attributable to the site.

The surface water/overland flow migration pathway is of some concern due to the extensive use of surface water along the 15 mile downstream segment (i.e. drinking water intake on Lake Ray Hubbard). Potential surface water migration could affect the drinking water to 1.6 million Dallas Water Utilities customers (Ref. 21). There is additional concern regarding the consumption of fish taken by recreational fisherman, and the impacts to sensitive environments (i.e. wetlands) along the surface water pathway. However, the overland flow distance from the site to Rowlett Creek (3500 feet, Ref. 1) and the fact that

overland flow distance from the site to Rowlett Creek (3500 feet, Ref. 1) and the fact that the site is not in a floodplain (Ref. 9) minimizes the risk to the surface water migration pathway.

The soil exposure pathway is of minor concern for this site. The significant exposure route is ingestion. Skin exposure is limited due to the thick grass vegetation of the site. Although the McCallum residences are adjacent to the landfill, the sampling locations having BBC exceedances are greater than 200 feet from these residences (Figure 3). The threat to off-site population is limited due to the lack of access to the site, the low population surrounding the site, and the low potential for sediment migration.

The air migration pathway is of minor concern. The site has a low nearby population and there are no nearby designated sensitive environments. No gas releases were observed at the site and no TCL volatile organic compounds were found in the surface soil samples at the site. Therefore, the air pathway threat is limited to airborne constituents caused by wind generated surface soil particulate entrainment. The site is well vegetated; therefore, the potential for wind generated particulate releases is limited.

4.0 REFERENCES

- U.S. Geological Survey, 7.5 minute topographic map, Rowlett, Tex., 1959 (photorevised 1968 and 1973).
- Texas Department of Health, "Potential Hazardous Waste Site Identification and Preliminary Assessment", February 24, 1981.
- Record of Telephone Conversation between Tom Casabonne, Fluor Daniel, and Ken Smith, Landfill Director City of Garland Sanitation Department. March 16, 1993.
- Federal Emergency Management Agency, Flood Insurance Rate Maps, Garland, Texas, Community-Panel Number 485471 0020 D, Map Revised Date August 15, 1990.
- Record of Telephone Conversation between Tom Casabonne, Fluor Daniel, and Rene Caraveo, Environmental Monitoring Manager, City of Dallas Water Utilities, June 7, 1993.

- U.S. Department of the Interior, Geologic Survey, Professional Paper 574-D "Elemental Composition of Surficial Materials in the Conterminous United States", H. T. Shacklette et. al., 1971.
- Inorganic Soil Data Validation Package for Miller Road Landfill, October 27, 1993.
- Inorganic Soil Data Validation Package for Castle Drive and Miles Road Landfill, October 28, 1993.
- Inorganic Soil Data Validation Package for East Garland Road Landfill, October 6, 1993.

FIGURES

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FIGURE 3 SAMPLE LOCATIONS

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TABLES

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TABLE 2 SAMPLE SUMMARY TABLE

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TABLE 2 SAMPLE SUMMARY TABLE Miles Road Landfill Sampling: Soil-June 21, 1993/Drinking Water-July 12, 1993

Sample Number	CLP Number (Sample Number)	Matrix	Location
SS01	FAA31, MFAP47	SOIL	MILES LANDFILL (ON-SITE) - SOUTHWEST CORNER
8802	FAA34, MFAP50	SOIL	MILES LANDFILL (ON-SITE) - WESTERN EDGE
SS03	FAA37, MFAP53	SOIL	MILES LANDFILL (ON-SITE) - NORTHWEST CORNER
SS04	FAA35, MFAP51	SOIL	MILES LANDFILL (ON-SITE) - SOUTH MIDDLE
SS05	FAA32, MFAP48	SOIL	MILES LANDFILL (ON-SITE) - SOUTH MIDDLE DUPLICATE OF SS04
SS06	FAA36, MFAP52	SOIL	MILES LANDFILL (ON-SITE) - MIDDLE
SS07	FAA33, MFAP49	SOIL	MILES LANDFILL (ON-SITE) - NORTHEAST CORNER
SS08	FAA38, MFAP54	SOIL	MILES LANDFILL (OFF-SITE) - WITHIN 200 FEET OF RESIDENCES JUST EAST OF LANDFILL CELLS
SD09	FAA39, MFAP55	SOIL/SEDIMENT	MILES LANDFILL (OFF-SITE) - NORTHERN EDGE OF POND ON MCCALLUM PROPERTY
SD10	FAA40, MFAP56	SOIL/SEDIMENT	MILES LANDFILL (OFF-SITE) - JUST SOUTHWEST OF LANDFILL IN DRAINAGE FEATURE ALONG MILES ROAD
SD11	FAA41, MFAP57	SOIL/SEDIMENT	UPSTREAM OF PPE ON ROWLETT CREEK
SD12	FAA42, MFAP58	SOIL/SEDIMENT	ROWLETT CREEK PPE
STA13	3TFADW4001	DRINKING WATER	TRIMBLE WELL DOWN GRADIENT DRINKING WATER WELL SAMPLE
STA14	3TFADW4002	DRINKING WATER	TRIMBLE WELL DUPLICATE
STA15	3TFADW4003	TRIP BLANK	TRIP BLANK COLLECTED AT (b) (6) VELL
STA16	3TFADW4004	DRINKING WATER	BACKGROUND DHINKING WATER WELL SAMPLE

SS - Soil Sample SD - Soil/Sediment Sample STA - Drinking Water Sample FAA - Organic Sample Number MFAP - Inorganic Sample Number 3TFADW - Drinking Water Sample Number

TABLE 3 SUMMARY OF INORGANIC SOIL SAMPLE RESULTS

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TABLE 3 SUMMARY OF INORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFILL page 1 of 3

Sample Number	Compound or Element	Concentration (mg/kg)	Qualifier	CLP Traffic Number	Comments
CASTLE	Cadmium	2.0	U	MFAP88.	AVERAGE OF BACKGROUND SAMPLES
MILES	Chromium	25.45		MFAP89	TAKEN AS PART OF THE CASTLE MILES
SS10 &	Copper	10.6			LANDFILL SI AT CHURCH AND RESIDENCE
8511	Lead	18.05			ACROSS CASTLE DRIVE FROM OPERATING
	Mercury	0.20	u		LANDFILL LOCATED APPROXIMATELY 3000
	Nickel	21.0	U		FEET SOUTH OF THE MILES LANDFILL
	Silver	3.0	U		
	Zinc	39.5			
CASTLE	Cadmium	2.0	U	MFAP88,	BACKGROUND BENCHMARK
MILES	Chromium	76.35		MFAP89	CONCENTRATION (BBC)
SS10 &	Copper	31.8			(3 X BACKGROUND CONCENTRATION
SS11	Lead	54.15			OR SAMPLE DETECTION LIMIT)
	Mercury	0.20	U		
	Nickel	21.0	U		
	Silver	3.0	U		
	Zinc	118.5			
SS01	Cadmium	4.0	U	MFAP47	MILES LANDFILL (ON-SITE)
	Chromium	14.1	J		SOUTHWEST CORNER
	Copper	15	J		
	Lead	18.3			
	Mercury	0.20	U		
	Nickel	23.7			
	Silver	5.0	U		
	Zinc	59.7	J		
5502	Cadmium	4.0	U	MFAP50	MILES LANDFILL (ON-SITE)
	Chromium	12.4	J		WESTERN EDGE
	Copper	9.5	J		
	Lead	31.4			
	Mercury	0.20	U		
	Nickel	11.1			
	Silver	5.0	U		
	Zinc	28.7	J		
SS03	Cadmium	10.9	J	MFAP53	MILES LANDFILL (ON-SITE)
	Chromium	91.7	J		NORTHWEST CORNER
	Copper	91.8	J		
	Lead	87.3			
	Mercury	0.40			
	Nickel	22.9			
	Silver	5.3			
	Zinc	233	J		
SS04	Cadmium	4.5	J	MFAP51	MILES LANDFILL (ON-SITE)
	Chromlum	38.9	J		SOUTH MIDDLE
	Copper	46.8	J		
	Lead	29.5			
	Mercury	0.20	U		
	Nickel	17.7			
	Silver	5.0	U		
	Zinc	142	J		

J - The associated value is an estimated quantity.
U - The material was analyzed for but not detected above the level of the associated value.
_____ The associated value is greater than the BBC.

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TABLE 3 (cont'd) SUMMARY OF INORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFILL page 2 of 3

Sampie Number	Compound or Element	Concentration (mg/kg)	Qualifier	CLP Traffic Number	Comments
CASTLE	Cadmium	2.0	U	MFAP88,	AVERAGE OF BACKGROUND SAMPLES
MILES	Chromium	25.45		MFAP89	TAKEN AS PART OF THE CASTLE MILES
SS10 &	Copper	10.6			LANDFILL SI AT CHURCH AND RESIDENC
SS11	Lead	18.05			ACROSS CASTLE DRIVE FROM OPERATIN
	Mercury	0.20	U		LANDFILL LOCATED APPROXIMATELY 300
	Nickel	21.0	u		FEET SOUTH OF THE MILES LANDFILL
	Silver	3.0	u		
	Zinc	39.5			
CASTLE	Cadmium	2.0	U	MFAP88,	BACKGROUND BENCHMARK
MILES	Chromium	76.35		MFAP89	CONCENTRATION (BBC)
SS10 &	Copper	31.8			(3 X BACKGROUND CONCENTRATION
SS11	Lead	54.15			OR SAMPLE DETECTION LIMIT)
	Mercury	0.20	U		
	Nickel	21.0	U		
	Silver	3.0	U		
	Zinc	118.5			
SS05	Cadmium	7.4 60.5	J	MFAP48	MILES LANDFILL (ON-SITE)
	Chromium	60.5	J		SOUTH MIDDLE
	Copper	74.2	J		DUPLICATE OF SS04
	Lead	28.0			
	Mercury	0.20	U		
	Nickel	20.1			
	Silver	5.0	U		
	Zinc	180	7		
SS06	Cadmium	4.0	U	MFAP52	MILES LANDFILL (ON-SITE)
	Chromium	16.2	J		MIDDLE
	Copper	21.4	J		
	Lead	28.4			
	Mercury	0.20	U		
	Nickel	22.0			
	Silver	5.0	U		
	Zinc	75.6	J		
\$507	Cadmium	4.0	U	MFAP49	MILES LANDFILL (ON-SITE)
	Chromium	19.9	J		NORTHEAST CORNER
	Copper	19.6	J		
	Lead	23.1			
	Mercury	0.20	U		
	Nickel	24.1			
	Silver	5.0	U		
	Zinc	74.5	J		
SS08	Cadmium	4.0		MFAP54	MILES LANDFILL (OFF-SITE)
	Chromium	14.1	J		WITHIN 200 FEET OF RESIDENCES JUST
	Copper	13.8	J		EAST OF LANDFILL CELLS
	Lead	22.0			
	Mercury	0.20	U		
	Nickel	16.1			
	Silver	5.0	U		
	Zinc	65.5	J		

J - The associated value is an estimated quantity.
U - The material was analyzed for but not detected above the level of the associated value.
____ The associated value is greater than the BBC.

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TABLE 3 (cont'd) SUMMARY OF INORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFILL page 3 of 3

Sample Number	Compound or Element	Concentration (mg/kg)	Qualifier	CLP Traffic Number	Comments
CASTLE	Cedmium	2.0	U	MFAP88,	AVERAGE OF BACKGROUND SAMPLES
MILES	Chromium	25.45		MFAP89	TAKEN AS PART OF THE CASTLE MILES
SS10 &	Copper	10.6		mi Ar us	LANDFILL SI AT CHURCH AND RESIDENCE
SS11	Lead	18.05			ACROSS CASTLE DRIVE FROM OPERATING
	Mercury	0.20	U		LANDFILL LOCATED APPROXIMATELY 3000
	Nickel	21.0	u		FEET SOUTH OF THE MILES LANDFILL
	Silver	3.0	u		FEET SOUTH OF THE MILES LANDFILL
	Zinc	39.5			
CASTLE	Cadmium	2.0	U	MFAP88.	BACKGROUND BENCHMARK
MILES	Chromium	76.35		MFAP89	CONCENTRATION (BBC)
SS10 &	Copper	31.8			(3 X BACKGROUND CONCENTRATION
SS11	Lead	54.15			OR SAMPLE DETECTION LIMIT)
	Mercury	0.20	U		ON SAFEE DETECTION LIMIT)
	Nickel	21.0	U		
	Silver	3.0	U		
	Zine	118.5			
SD09	Cadmium	4.0	U	MFAP55	MILES LANDFILL (OFF-SITE)
	Chromium	14.0	J		NORTHERN EDGE OF POND
	Copper	16,3	J		ON MCCALLUM PROPERTY
	Lead	17.8			
	Mercury	0.20	U		
	Nickel	19.6			
	Silver	5.0	U		
	Zinc	81.0	1		
SD10	Cadmium	4.0	U	MFAP56	MILES LANDFILL (OFF-SITE)
	Chromium	12.6	J		JUST SOUTHWEST OF LANDFILL IN
	Copper	12.5	J		DRAINAGE FEATURE ALONG MILES ROAD
	Load	30.6			The state of the s
	Mercury	0.20	U		
	Nickel	20.2			
	Silver	5.0	U		
	Zinc	51.6	J		
SD11	Cadmium	4.0	U	MFAP57	UPSTREAM OF PPE ON ROWLETT CREEK
	Chromium	7.7	J		THE STATE OF THE S
	Copper	10.4	J		
	Lead	10.8			
	Mercury	0.20	U		
	Nickel	18.7			
	Silver	5.0	U		
	Zinc	42.2	J		
SD12	Cadmium	4.0	U	MFAP58	ROWLETT CREEK PPE
	Chromium	10.7	7		
	Copper	9.9	J		
	Lead	14.8			
	Mercury	0.20	U		
	Nickel	16.7			
	Silver	5.0	U		
	Zinc	40.4	J		

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TABLE 4 SUMMARY OF ORGANIC SOIL SAMPLE RESULTS

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TABLE 4
SUMMARY OF ORGANIC SOIL SAMPLE RESULTS
MILES ROAD LANDFILL page 1 of 3

Sample Number	Compound or Element	Concentration (ug/kg)	Qualifier	CLP Traffic Number	Commente
CASTLE	Heptachlor			FAA72,	AVERAGE OF BACKGROUND SAMPLES
MILES	epoxide	1.9	u	FAA73	TAKEN AS PART OF THE CASTLE MILES
SS10 &	Cleidrin	3.6	U		LANDFILL SI AT CHURCH AND RESIDENCE
5511	4,4'-DDE	3.6	U		ACROSS CASTLE DRIVE FROM OPERATING
	4,4'-DDD	3.6	U		LANDFILL LOCATED APPROXIMATELY 300
	a-chlordane	1.9	U		FEET SOUTH OF THE MILES LANDFILL
	y-chlordane	1.9	U		
CASTLE	Heptachlor			FAA72,	BACKGROUND BENCHMARK
MILES	epoxide	1.9	U	FAA73	CONCENTRATION (BBC)
SS10 &	Dieldrin	3.6	U		(3 X BACKGROUND CONCENTRATION
SS11	4,4'-DDE	3.6	U		OR SAMPLE DETECTION LIMIT)
	4,4'-DDD	3.6	u		
	a-chlordane	1.9	u		
	y-chlordane	1.9	U		
SS01	Heptachlor			FAA31	MILES LANDFILL (ON-SITE)
	epoxide	2.1	U		SOUTHWEST CORNER
	Dieldrin	4.1	U		
	4,4'-DDE	4.1	u		
	4,4'-DDD	4.1	U		
	a-chlordane	2.1	U		
	y-chlordane	2.1	U		
SS02	Heptachlor			FAA34	MILES LANDFILL (ON-SITE)
	epoxide	2.1	U		WESTERN EDGE
	Dieldrin	4.1	U		WEST SIDE
	4,4'-DDE	4.1	U		
	4,4'-DDD	4.1	U		
	a-chlordane	2.1	U		
	y-chlordane	2.1	U		
SS03	Heptachlor			FAA37	MILES LANDFILL (ON-SITE)
	epoxide	7.6			NORTHWEST CORNER
	Dieldrin	44			
	4,4'-DDE	6.2			
	4,4'-DDD	7.6 44 6.2 34 140			
	a-chlordane				
	y-chlordane	210			
SS04	Heptachlor			FAA35	MILES LANDFILL (ON-SITE)
	epoxide	2.2	U		SOUTH MIDDLE
	Dieldrin	4.2	U		3.2.2.00.000.000
	4,4'-DDE	4.2	U		
	4,4'-DDD	5.1			
	a-chlordane	7.9			
	y-chlordane	7.6			

J - The associated value is an estimated quantity.
U - The material was analyzed for but not detected above the level of the associated value.

——- The associated value is greater than the BBC.

TABLE 4 (cont'd) SUMMARY OF ORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFILL page 2 of 3

Sample Number	Compound or Element	Concentration (ug/kg)	Qualifier	CLP Traffic Number	Comments
CASTLE	Heptachlor			FAA72,	AVERAGE OF BACKGROUND SAMPLES
MILES	epoxide	1.9	u	FAA73	TAKEN AS PART OF THE CASTLE MILES
SS10 &	Dieldrin	3.6	u		LANDFILL SI AT CHURCH AND RESIDENCE
5511	4,4'-DDE	3.6	U		ACROSS CASTLE DRIVE FROM OPERATIN
	4,4'-DDD	3.6	u		LANDFILL LOCATED APPROXIMATELY 300
	a-chlordane	1.9	U		FEET SOUTH OF THE MILES LANDFILL
	r-chlordane	1.9	U		
CASTLE	Heptachlor			FAA72,	BACKGROUND BENCHMARK
MILES	epoxide	1.9	u	FAA73	CONCENTRATION (BBC)
SS10 &	Dieldrin	3.6	u		(3 X BACKGROUND CONCENTRATION
5511	4,4'-DDE	3.6	u		OR SAMPLE DETECTION LIMIT)
	4,4'-DDD	3.6	U		Section of Education Apple
	a-chlordane	1.9	U		
	y-chlordane	1.9	U		
SS05	Heptachlor			FAA32	MILES LANDFILL (ON-SITE)
	epoxide	2.2	U		SOUTH MIDDLE
	Dieldrin	4.3	U		DUPLICATE OF SS04
	4,4'-DDE	4.3	U		00 martie of 0004
	4,4'-DDD	4.3	U		
	a-chlordane	4.6			
	y-chlordane	4.5			
SS06	Heptachlor			FAA36	MILES LANDFILL (ON-SITE)
	epoxide	2.2	u		MIDDLE
	Dieldrin	4.2	U		model
	4,4'-DDE	4.2	u		
	4,4'-DDD	4.2	U		
	a-chlordane	2.2	u		
	y-chlordane	2.2	U		
SS07	Heptachlor			FAA33	MILES LANDFILL (ON-SITE)
	epoxide	2.2	U		NORTHEAST CORNER
	Dieldrin	4.2	U		Hommon Connen
	4,4'-DDE	4.2	U		
	4,4'-DDD	4.2	U		
	a-chlordane	2.2	U		
	y-chlordane	2.2	U		
SS08	Heptachlor			FAA38	MILES LANDFILL (OFF-SITE)
	epoxide	2.1	u		WITHIN 200 FEET OF RESIDENCES JUST
	Dieldrin	4	u		EAST OF LANDFILL CELLS
	4,4'-DDE	4	U		SAGE OF EMBURIC CELLS
	4,4'-DDD	4	U		
	a-chlordane	2.1	U		
	y-chlordane	2.1	u		

TABLE 4 (cont'd) SUMMARY OF ORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFILL page 3 of 3

Sample Number	Compound or Element	Concentration (ug/kg)	Qualifier	CLP Traffic Number	Comments
CASTLE	Heptachlor			FAA72,	AVERAGE OF BACKGROUND SAMPLES
MILES	epudde	1.9	U	FAA73	TAKEN AS PART OF THE CASTLE MILES
SS10 &	Dieldrin	3.6	U		LANDFILL SI AT CHURCH AND RESIDENCE
SS11	4.4'-DDE	3.6	U		ACROSS CASTLE DRIVE FROM OPERATING
	4,4'-DDD	3.6	U		LANDFILL LOCATED APPROXIMATELY 3000
	a-chlordane	1.9	u		FEET SOUTH OF THE MILES LANDFILL
	y-chlordane	1.9	U		
CASTLE	Heptachlor			FAA72,	BACKGROUND BENCHMARK
MILES	epoxide	1.9	U	FAA73	CONCENTRATION (BBC)
SS10 &	Dieldrin	3.6	U		(3 X BACKGROUND CONCENTRATION
SS11	4,4'-DDE	3.6	U		OR SAMPLE DETECTION LIMIT)
	4,4'-DDD	3.6	u		The second and month processes with the second
	g-chlordane	1.9	U		
	y-chlordane	1.9	U		
SD09	Heptachlor	The state of the s		FAA39	MILES LANDFILL (OFF-SITE)
	epoxide	2.2	U		NORTHERN EDGE OF POND
	Dieldrin	4.2	U		ON MCCALLUM PROPERTY
	4,4'-DDE	4.2	U		
	4,4'-DDD	4.2	U		
	g-chlordane	2.2	U		
	y-chlordane	2.2	U		
SD10	Heptachlor			FAA40	MILES LANDFILL (OFF-SITE)
	epoxide	2	U		JUST SOUTHWEST OF LANDFILL
	Dieldrin	3.8	U		IN DRAINAGE FEATURE ALONG
	4,4'-DDE	3.8	U		MILES ROAD
	4,4'-DDD	3.8	U		
	a-chlordane	2	U		
	y-chlordane	2	U		
SD11	Heptachlor			FAA41	UPSTREAM OF PPE ON ROWLETT CREEK
	epoxide	2.2	U		
	Dieldrin	4.2	U		
	4,4'-DDE	4.2	u		
	4,4'-DDD	4.2	U		
	a-chlordane	2.2	U		
	y-chlordane	2.2	u		
SD12	Heptachlor			FAA42	ROWLETT CREEK PPE
	epoxide	2.3	U		
	Dieldrin	4.4	U		
	4,4'-DDE	4.4	U		
	4,4'-DDD	4.4	U		
	a-chlordane	2.3	U		
	y-chlordane	2.3	U		

J - The associated value is an estimated quantity.
U - The material was analyzed for but not detected above the level of the associated value.
____. The associated value is greater than the BBC.

H:1675330(230)ANLES.FTB

TABLE 5
SUMMARY OF DRINKING WATER SAMPLE RESULTS

H:635338;230;MILES.FTB

TABLE 5 SUMMARY OF DRINKING WATER SAMPLE RESULTS' MILES ROAD LANDFILL

Sample Number	Compound or Element	Concentration (ug/L)	CLP Traffic Number	Comments
STA16	Copper Magnesium Mangenese Zinc	20 (ND) 5190 5 (ND) 20 (ND)	3TFADW4004	BACKGROUND SAMPLE RESULTS FROM THE (b) (6) WELL.
STA16	Copper Magnesium Manganese Zinc	20 (ND) 15570 5 (ND) 20 (ND)	3TFADW4004	BENCHMARK BACKGROUND CONCENTRATIONS (BBCs) ARE 3X BACKGROUND CONCENTRATION OR THE DETECTION LIMIT IF COMPOUND IS NOT DETECTED.
STA13	Copper Magnesium Manganesa Zinc	24 16300 21 191	3TFADW4001	(b) (6) WELL
STA14	Copper Magnesium Manganese Zinc	29 16900 21 199	3TFADW4002	(b) (6) WELL DUPLICATE

... A double underline is used to show constituents that are above their respective BBCs.

ND - Not Detected above the value listed.

ATTACHMENT 4
SOIL SAMPLE DATA VALIDATION PACKAGE

H1635339,230(MILES.FT

ATTACHMENT 5
DRINKING WATER SAMPLE DATA

N1835338730348 FS P1

ATTACHMENT 6
BACKGROUND SOIL SAMPLE DATA VALIDATION FOR THE CASTLE DRIVE
AND MILES ROAD LANDFILL

R1625338/230MQ25.FTB

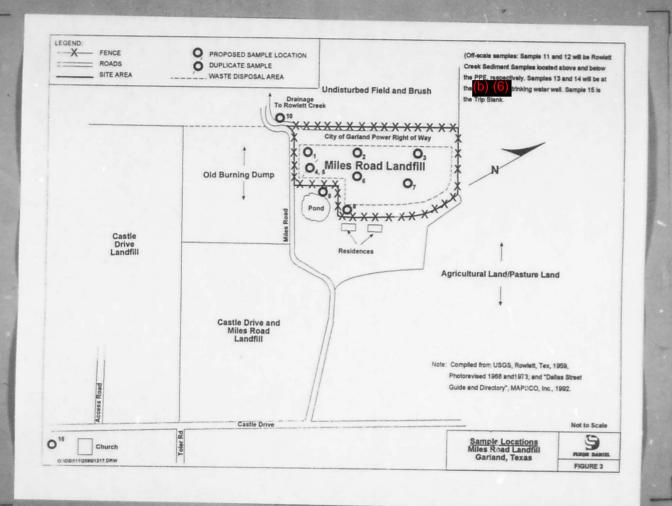


FIGURES

H1035330(230)MR.ES.PTD

FIGURE 3 SAMPLE LOCATIONS

H1625336(230)AMLES_FTB



TABLES

H:1635338(230)MILES.PT

TABLE 2 SAMPLE SUMMARY TABLE

H:635330(230MALES.PT)

TABLE 3 SUMMARY OF INORGANIC SOIL SAMPLE RESULTS

H160533912301MLES.PT0

TABLE 3 (cont'd) SUMMARY OF INORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFILL page 2 of 3

Sample Number	Compound or Element	Concentration (mg/kg)	Qualifier	CLP Traffic Number	Comments
CASTLE	Cadmium	2.0	U	MFAP88,	AVERAGE OF BACKGROUND SAMPLES
MILES	Chromium	25.45		MFAP89	TAKEN AS PART OF THE CASTLE MILES
SS10 &	Copper	10.6			LANDFILL SI AT CHURCH AND RESIDENCE
SS11	Lend	18.05		,	ACROSS CASTLE DRIVE FROM OPERATING
	Mercury	0.20	U		LANDFILL LOCATED APPROXIMATELY 3000
	Nickel	21.0	U		FEET SOUTH OF THE MILES LANDFILL
	Silver	3.0	U		
	Zinc	39.5			
CASTLE	Cadmlum	2.0	U	MFAP88,	BACKGROUND BENCHMARK
MILES	Chromium	76.35		MFAP89	CONCENTRATION (BBC)
SS10 &	Copper	31.8			(3 X BACKGROUND CONCENTRATION
5511	Lead	54.15			OR SAMPLE DETECTION LIMIT)
	Mercury	0.20	u		
	Nickel	21.0	U		
	Silver	3.0	U		
	Zinc	118.5			
SS05	Cadmlum	7.4	J	MFAP48	MILES LANDFILL (ON-SITE)
	Chromium	60.5	J		SOUTH MIDDLE
	Copper	74.2	J		DUPLICATE OF SS04
	Lead	28,0			
	Mercury	0.20	U		
	Nickel	20.1			
	Silver	5.0	U		
	Zinc	180	J		
SS06	Cadmium	4.0	U	MFAP52	MILES LANDFILL (ON-SITE)
	Chromium	16.2	J		MIDDLE
	Copper	21.4	J		
	Lead	28.4			
	Mercury	0.20	U		
	Nickel	22.0			
	Silver	5.0	U		
	Zinc	75.6	J		
SS07	Cadmium	4.0	U	MFAP49	MILES LANDFILL (ON-SITE)
	Chromlum	19.9	J		NORTHEAST CORNER
	Copper	19.6	J		
	Lead	23,1			
	Mercury	0.20	U		
	Nickel	24.1			
	Silver	5.0	U		
	Zinc	74.5	J		
SS08	Cadmium	4.0		MFAP54	MILES LANDFILL (OFF-SITE)
	Chromium	14.1	J		WITHIN 200 FEET OF RESIDENCES JUST
	Copper	13.8	J		EAST OF LANDFILL CELLS
	Load	22.0			
	Mercury	0.20	U		
	Nickel	16.1			
	Silver	5.0	U		
	Zinc	65.5	J		

J - The associated value is an estimated quantity.

U - The material was analyzed for but not detected above the level of the associated value.

The associated value is greater than the BBC.

H:16353301230(MILES.PTB

TABLE 4
SUMMARY OF ORGANIC SOIL SAMPLE RESULTS

H:63539R290MILES.PTI

TABLE 4 SUMMARY OF ORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFILL page 1 of 3

Sample Number	Compound or Element	Concentration (ug/kg)	Qualifier	CLP Traffic Number	Comments
CASTLE	Heptachlor			FAA72,	AVERAGE OF BACKGROUND SAMPLES
MILES	epoxide	1.9	U	FAA73	TAKEN AS PART OF THE CASTLE MILES
8810 4	Dieldrin	3.6	U		LANDFILL SI AT CHURCH AND RESIDENCE
SS11	4,4'-DDE	3.6	U		ACROSS CASTLE DRIVE FROM OPERATING
	4,4'-DDD	3.6	u		LANDFILL LOCATED APPROXIMATELY 3000
	a-chlordane	1.9	U		FEET SOUTH OF THE MILES LANDFILL
	p-chlordane	1.9	U		
CASTLE	Heptachlor			FAA72,	BACKGROUND BENCHMARK
MILES	epoxide	1.9	U	FAA73	CONCENTRATION (BBC)
SS10 &	Dieldrin	3.6	U		(3 X BACKGROUND CONCENTRATION
8811	4,4'-DDE	3.6	U		OR SAMPLE DETECTION LIMIT)
	4,4'-DDD	3.6	U		
	a-chlordane	1.9	U		
	y-chlordane	1.9	U		
SS01	Heptachior			FAA31	MILES LANDFILL (ON-SITE)
	epoxide	2.1	U		SOUTHWEST CORNER
	Dieldrin	4.1	U		
	4,4'-DDE	4.1	U		
	4,4'-DDD	4.1	u		
	a-chlordane	2.1	U		
	y-chlordane	2.1	u		
SS02	Heptachlor			FAA34	MILES LANDFILL (ON-SITE)
	epoxide	2.1	U		WESTERN EDGE
	Dieldrin	4.1	U		WEST SIDE
	4,4'-DDE	4.1	U		
	4,4'-DDD	4.1	U		
	a-chlordane	2.1	U		
	y-chlordane	2.1	U		
SS03	Heptachlor			FAA37	MILES LANDFILL (ON-SITE)
	epoxide	7.6			NORTHWEST CORNER
	Dieldrin	44			
	4,4'-DDE	6.2			
	4,4'-DDD	34			
	chlordane	44 6.2 34 140 210			
\$504	Heptachlor			FAA35	MILES LANDFILL (ON-SITE)
	epoxide	2.2	U		SOUTH MIDDLE
	Dieldrin	4.2	u		
	4,4'-DDE	4.2	u		
	4,4'-DDD	5.1			
	a-chlordane	7.9			
	y-chlordane	7.6			

J - The associated value is an estimated quantity.
U - The material was analyzed for but not detected above the level of the associated value.

The associated value is greater than the BBC.

TABLE 4 (cont'd) SUMMARY OF ORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFIL! page 2 of 3

Sample Number	Compound or Element	Concentration (ug/kg)	Qualifier	CLP Traffic	Comments
CASTLE	Heptachlor			FAA72,	AVERAGE OF BACKGROUND SAMPLES
MILES	epoxide	1.9	U	FAA73	TAKEN AS PART OF THE CASTLE MILES
SS10 4	Dieldrin	3.6	U '		LANDFILL SI AT CHURCH AND RESIDENCE
SS11	4,4'-DDE	3.6	U		ACROSS CASTLE DRIVE FROM OPERATING
	4,4'-DDD	3.6	U		LANDFILL LOCATED APPROXIMATELY 300
	g-chlordane	1.9	U		FEET SOUTH OF THE MILES LANDFILL
	y-citiordane	1.9	U		
CASTLE	Heptachlor			FAA72,	BACKGROUND BENCHMARK
MILES	epoxide	1.9	U	FAA73	CONCENTRATION (BBC)
SS10 &	Dieldrin	3.6	U		(3 X BACKGROUND CONCENTRATION
SS11	4,4'-DDE	3.6	U		OR SAMPLE DETECTION LIMIT)
	4,4'-DDD	3.6	U		
	a-chlordane	1.9	U		
	y-chlordane	1.9	u		
\$\$05	Heptachlor			FAA32	MILES LANDFILL (ON-SITE)
	epoxide	2.2	U		SOUTH MIDDLE
	Dieldrin	4.3	U		DUPLICATE OF SS04
	4,4'-DDE	4.3	U		
	4,4'-DDD	4.3	U		
	a-chlordane	4.6			
	y-chlordane	4.5			
SS06	Heptachlor			FAA36	MILES LANDFILL (ON-SITE)
	epoxide	2.2	U		MIDDLE
	Dieldrin	4.2	U		
	4,4'-DDE	4.2	U		
	4,4'-DDD	4.2	U		
	a-chlordane	2.2	U		
	y-chlordane	2.2	U		
SS07	Heptachlor			FAA33	MILES LANDFILL (ON-SITE)
	epoxide	2.2	U		NORTHEAST CORNER
	Dieldrin	. 4.2	U		
	4,4'-DDE	4.2	U		
	4,4'-DDD	4.2	U		
	a-chlordane	2.2	U		
	y-chlordane	2.2	u		
SS08	Heptachlor			FAA38	MILES LANDFILL (OFF-SITE)
	epoxide	2.1	u		WITHIN 200 FEET OF RESIDENCES JUST
	Dieldrin	4	U		EAST OF LANDFILL CELLS
	4,4'-DDE	4	U		
	4,4'-DDD	4	U		
	a-chlordane	2.1	u		
	y-chlordane	2.1	u		

J - The associated value is an estimated quantity.
U - The material was analyzed for but not detected above the level of the associated value.
____ The associated value is greater than the BBC.

H:405338;238;MILES.FTB

TABLE 4 (cont'd) SURMARY OF ORGANIC SOIL SAMPLE RESULTS MILES ROAD LANDFILL page 3 of 3

Sample Number	Compound or Element	Commitmation (reg/kg)	Qualifier	CLP Treffic Number	Comments
CASTLE	Heptachlor			FAA72,	AVERAGE OF BACKGROUND SAMPLES
MILES	epoxide	2.0	U	FAA73	TAKEN AS PART OF THE CASTLE MILES
SS10 &	Dieldrin	3.6	U		LANDFILL SI AT CHURCH AND RESIDENCE
\$\$11	4,4'-DDE	3.6	u		ACROSS CASTLE DRIVE FROM OPERATIN
	4,4'-DDD	3.6	U		LANDFILL LOCATED APPROXIMATELY 300
	a-chlordane	1.9	U		FEET SOUTH OF THE MILES LANDFILL
	y-chlordane	1.9	U		
CASTLE	Heptachlor			FAA72,	BACKGROUND BENCHMARK
MILES	epoxide	1.0	U	FAA73	CONCENTRATION (BBC)
8810 A	Dieldrin	3.5	U		(3 X BACKGROUND CONCENTRATION
\$\$11	4,4'-DDE	3.6	U		OR SAMPLE DETECTION LIMIT)
	4,4'-DDD	3.6	U		
	g-chlordane	1.0	U		
	y-chlordane	1.0	U		
SD09	Heptachlor			FAA39	MILES LANDFILL (OFF-SITE)
	epoxide	2.2	U		NORTHERN EDGE OF POND
	Dieldrin	4.2	u		ON MCCALLUM PROPERTY
	4,4'-DDE	4.2	U		
	4,4'-DDD	4.2	U		
	a-chlordane	22	U		
	p-chlordane	22	U		
SD10	Heptachlor			FAA40	MILES LANDFILL (OFF-SITE)
	epoxide	2	U		JUST SOUTHWEST OF LANDFILL
	Dieldrin	3.5	U		IN DRAINAGE FEATURE ALONG
	4,4'-DDE	3.8	U		MILES ROAD
	4,4'-DDD	3.8	U		
	a-chlordane	2	u		
	y-chlordane	2	U		
SD11	Heptachlor			FAA41	UPSTREAM OF PPE ON ROWLETT CREE
	epoxide	22	U		
	Dieldrin	42	U		
	4,4'-DDE	42	U		
	4,4'-DDD	4.2	u		
	a-chlordane	22	U		
	y-chlordane	22	U		
SD12	Heptachior			FAA42	ROWLETT CREEK PPE
	epoxide	23	U		
	Dieldrin	4.4	u		
	4.4'-DDE	4.4	Ü		
	4,4'-DDD	4.4	u		
	a-chlordane	23	U		
	r-chlordane	23	ü		

TABLE 5 SUMMARY OF DRINKING WATER SAMPLE RESULTS

H:0003300230M0255.FT

TABLE 5 SUMMARY OF DRINKING WATER SAMPLE RESULTS! MILES ROAD LANDFILL

Sample Number	Compound or Element	Concentration (ug/L)	CLP Traffic Number	Comments
STA16	Copper Megnesium Manganese Zinc	20 (ND) 5190 5 (ND) 20 (ND)	3TFADW4004	BACKGROUND SAMPLE RESULTS FROM THE HARRIS WELL.
STA16	Copper Magnesium Manganese Zinc	20 (ND) 15670 5 (ND) 20 (ND)	3TFADW4004	BENCHMARK BACKGROUND CONCENTRATIONS (BBCs) ARE 3X BACKGROUND CONCENTRATION OR THE DETECTION LIMIT IF COMPOUND IS NOT DETECTED.
STA13	Copper Magnesium Manganese Zinc	24 16300 21 191	3TFADW4001	(b) (6) vell.
STA14	Copper Magnesium Manganese Zinc	29 16900 21 199	3TFADW4002	(b) (6) VELL DUPLICATE

This summary presents metals data for the drinking water samples

- A double underline is used to show constituents that are above their respective BSCs

ND - Not Detected above the value listed.

R160630923069413.FT3

ATTACHMENT 4
SOIL SAMPLE DATA VALIDATION PACKAGE

H:636330(230)MR.ES.FT

DATA QUALITY ASSURANCE REVIEW

Site Name: Miles Rd. LF Site Code: TXD980697072 Case Number: 20258

Laboratory: Silver Analytical Inc. - Kellogg, Idaho

Soil Samples: MFAP47, MFAP48, MFAP49, MFAP50, MFAP51, MFAP52, MFAP53, MFAP54, MFAP55, MFAP56, MFAP57, MFAP58

The data package consisted of 12 soil samples and one duplicate sample analyzed for TCL metals and cyanide:

- Analytical Parameters: All samples were analyzed using multimedia, multi-concentration protocols.
- 2. Holding Times: All holding times were met.
- 3. <u>Calibration Verification</u>: All initial calibration verification results were within control limits. All continuing calibration verifications were conducted at the proper frequency and the results were within the control limits.
- Blanks: All blanks were less than or equal to the IDL, except for vanadium. Analyte detected in blanks above IDL. All samples have analyte concentrations less than five times the IDL and these were flagged (B).
- Matrix Spike Recoveries: R for antimony is beyond acceptable limits, however, sample data was not affected.

R for cadmium, chromium, copper, and zinc is <75%. Samples were listed as (J).

- <u>Duplicates:</u> All analytes except zinc were within control limits. Zinc analyte data was flagged as (J).
- Laboratory Control Samples: Quality control criteria were met in all samples.
- ICP Interference Check Sample (ICS): ICP interference check samples were analyzed at the specified frequency and the results were within control limits.
- 9. ICP Serial Dilution: Quality control criteria were met in all samples. The %D listed for beryllium was incorrectly calculated to be 100.0. The correct value should be 42.0.

- 10. Furnace AA: The correlation coefficient for lead on sample MFAP53 was less than 0.995, as such, the analyte was flagged (J). All other samples met the quality control criteria.
- 11. <u>Sample Result Verification:</u> Data package had no missing or incorrectly numbered page.
- 12. Overall Assessment of Data: The data package was acceptable except for matrix spikes which affected the analytes cadmium, chromium, copper, and zinc.

Site Name and Code: Miles Road Landfil,TXD980597072
Case Number: 20256
Concentrations in milligrams/kilogram (mg/kg)
Compiled by: Fluor Daniel,inc.

	Trai	fic Number:	MFAP47		MFAP48	Action	MFAP49	-	MFAP50	-	MFAP51	NAME OF TAXABLE PARTY.	MFAP52	-	IMFAP53	-
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		BOIL		SOIL	
	Pe	rcent Solids	77.9		73.4		76.6		78.6		74.8		75.2		70.3	
		Location:	SS-01		SS-05		88-07		SS-02		88-04		99-06		SS-03	
		and or														
		Sample Description:									OF MFAP48	E				-1
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C
ALUMINUM	7429-90-5	INO	13,700.00		19,000.00		17,900.00		15,700 00		15,100.00		12,200.00		14,800.00	
ANTIMONY	7440-36-0	INO														
ARBENIC	7440-38-2	INO	4.30		7.60		4.30		9.40		3.30		3.50		5.10	
BARIUM	7440-39-3	INO	173.00		149.00		151.00		196.00		176.00		132.00		162.00	
BERYLLIUM	7440-41-7	INO														
CADMIUM	7440-43-9	INO		U	7.40	3	4.00	U	4.00	U	4.50	3	4.00	U	10.90	13
CALCIUM	7440-70-2	INO	71,600.00		81,700.00		56,300.00		13,400.00		77,300.00		47,500.00		54,900.00	
CHROMIUM	7440-47-3	INO	14,10	3	80.50	3	19.90	J	12.40	J	38.90	3	10.20	3	91.70	3
COBALT	7440-48-4	INO	11.50		7.50		12.70		9.00		7.70	-	10.40		8.80	
COPPER	7440-50-8	INO	15.00	J	74.20	J	19.60	J	9.50	J	46.80	7	21.40	3	91.80	J
IRON	7439-89-6	INO	18,700.00		18,900.00		20,600.00		10,100.00		18,200.00		17,000.00		16,900.00	
LEAD	7439-92-1	INO	18.30		28.00		23.10		31.40		29.50		28.40		87.30	
MAGNESIUM	7439-95-4	INO	4,690.00		5,790.00		4,380.00		1,950.00		5,180.00		3,790.00		3,870.00	1
MANGANESE	7439-96-5		628.00		305.00		556.00		367.00		305.00		411.00		256.00	
MERCURY	7439-97-6	INO	0.20	U	0.20	U	0.20	U	0.20	U	0.20	U		U	0.40	
NICKEL	7440-02-0	INO	23.70		20.10		24.10		11.10		17.70		22.00		22.90	
POTASSIUM	7440-09-7	INO	1,830.00		2,510.00		2,330.00		947.00		2,060.00		1,840.00		1,820.00	
SELENIUM	7782-49-2	INO														
SILVER	7440-22-4	INO	5.00	U	5.00	U	5.00	U	5.00	U		U	5.00	U	5.30	
SODIUM	7440-23-5	INO	134.00		424.00		114.00		186.00		382.00	1	153.00		459.00	
THALLIUM	7440-28-0	INO														
VANADIUM	7440-62-2	INO	37.70	В	40.50	B	43,20	B	32.70	В	34,30	В	36.10	В	37.60	В
ZINC	7440-66-6	INO	59.70	J	180.00	J	74.50	J	28.70	J	142.00	1	75.60	J	233.00	u
CYANIDE		INO	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	W

- LEGEND

 INO Inorganic

 B Blank interference. Analyte conc. <5x blank conc.

 J The associated value is an estimated quantity.

 R Date for analyte is unusable.

 U The material was analyzed for but was not detected above the level of the associated value.

 UJ The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

B:\MILES.WK3

Site Name and Code: Miles Road Landfil,TXD980697072 Case Number: 20256 Concentrations in milligrams/kilogram (mg/kg) Compiled by: Fluor Daniel,inc.

	Traf	Mc Number:		-	MFAP55	_	MFAP56	-	MFAP57	-	MFAP58		MFAP48D			-
		Matrix:	SOIL		SOIL		SOIL		BOIL		SOIL		BOIL			
	Pe	rcent Solids	79.1		75.7		83.0		77.5		74.4		74.6			
		Location:	SS-08		SD-09		SD-10		SD-11		SD-12		DUPLICATE			1
		and or Sample Description:										-	LAB CUPLICATE			
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C
ALUMINUM	7429-90-5	INO	14,300.00	-	11,700.00	-	12,200.00		B,670.00	-	9,320.00	-	18,653.75	-		-
ANTIMONY	7440-36-0	CMI														
ARSENIC	7440-38-2	INO	4.70		4.20		6.30		8.00		5.60		5.15			
BARIUM	7440-39-3	INO	188.00		98.00		217.00		48.60		87.40		131.69			1
BERYLLIUM	7440-41-7	INO														
CADMIUM	7440-43-9	INO	4.00	U	4.00	U	4.00	U	4.00	U	4.00	U	4.00	U		
CALCIUM	7440-70-2	INO	90,500.00		B1,600.00		101,000.00		227,000.00		199,000.00		79,124.41			
CHROMIUM	7440-47-3	INO	14.10	J	14.00	J	12.60	J	7.70	1	10.70	J	44.24	J		
COBALT	7440-48-4	INO	8.50		7.10		11.30		10.10		6.50		7.52			
COPPER	7440-50-8	INO	13.80	J	16.30	J	12.50	J	10.40	1	9.90	J	44.69	J		
IRON	7439-89-6	INO	15,700.00		20,500.00		15,100.00		13,000.00		10,800.00		19,243.91			
LEAD	7439-92-1	INO	22.00		17.80		30.60		10.80		14.80		28.24			
MAGNESIUM	7439-95-4	INO	2,890.00		5,730.00		3,400.00		1,920.00		2,530.00		5,535.54			
MANGANESE	7439-98-5	INO	306.00		286.00		581.00		660.00		753.00		282.48			
MERCURY	7439-97-6	INO	0.20	U	0.20	U	0.20	U	0.20	U.		U	0.20	U		1
NICKEL	7440-02-0	INO	16.10		19.60		20.20		18.70		16.70		19.91			
POTASSIUM	7440-09-7	INO	1,950.00		2,030.00		1,450.00		B76.00		1,510.00		2,508.97			
SELENIUM	7782-49-2	INO														
SILVER	7440-22-4	INO	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U	5.00	U		
SODIUM	7440-23-5	INO	76.00		160.00		152.00		335.00		270.00		418.09			1
THALLIUM	7440-28-0	INO														
VANADIUM	7440-62-2	INO	34.10	В	30.80	В	36.90	B	22.90	В	30.70	В	41.48	9		
ZINC	7440-56-6	INO	65.50	J	81.00	7	51.60	J	42.20	J	40.40	1	114.82	1		
CYANIDE		INO	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U		

LEGEND

NO -- Inorganic

B -- Blank interference. Anal -- conc. <5x blank conc.

J -- The associated value is an estimated quantity.

R -- Date for analyte is unusable.

U -- The material was analyzed for but was not detected above the level of the associated value.

UJ -- The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

B:\MILES.WK3

ORGANIC DATA QUALITY ASSURANCE REVIEW

Site Name: Miles Road Landfill TXD980697072

Case Number: 20258

Laboratory: Ross Analytical Services, Inc.; Strongsville, OH

Soil Samples: FA-A38, FA-A39, FA-A40, FA-A41, FA-A42, FA-A31, FA-A32, FA-A33, FA-A34, FA-A35,

The data package consists of 12 soil samples analyzed for volatile organics, semivolatile organics and pesticides/PCB's.

 Analytical Parameters: Soil samples were analyzed using multi-media low concentration protocols.

Holding Times:

VOA: The VOA holding times were not exceeded.

BNA: The BNA holding times were not exceeded.

PEST/PCB: The Pesticide/PCB holding times were not exceeded.

4. Tuning/Performance:

VOA: Instrument performance checks met quality control criteria.

Internal standard meets quality control criteria.

BNA: Instrument performance checks met quality control criteria.

Internal standard meets quality control criteria.

PEST/PCB: Instrument perofrmance checks met quality control criteria.

4. Calibration Verification:

VOA: Initial calibration did not meet quality control criteria for acetone.

Continuing calibration checks did not meet quality control criteria for biomomethane and vinyl chloride. None of the above affected data results.

BNA: The initial calibration was not conducted within the alloted time frame of 12 hours before actual samples were run. On the first continuing calibration check, the %D for 2,4-Dinitrophenol and 4-Nitroaniline were beyond quality control criteria. On the second continuing calibration check, seven analyses failed to met quality control criteria. Sample data was not affected by these results.

PEST\PCB: The analytical sequence of running one standard every five smaples was not met.

5. Blanks:

VOA: All blanks met quality control criteria.

BNA: All blanks meet quality control criteria.

PEST/PCB: All blanks meet quality control criteria.

System Monitoring Compounds (SMCs)/Surrogates

VOA: Met quality control criteria.

BNA: Surrogate recovery meets quality control criteria.

PEST/PCB: Surrogate recovery met quality control criteria.

7. Matrix Spike/Matrix Spike Duplicates:

VOA: Met quality control criteria.

BNA: Pentachlocophenol did not meet the quality control criteria for matrix spike recovery and % RPD. 2,4 dinitrotoluene did not meet the quality control criteria for matrix spike recovery. This did not affect sample results.

PEST/PCB: Met quality control criteria.

 <u>Duplicates:</u> FA-A32 and FA-A35 are identified as field duplicates. No gross variations in duplicate results are observed. No qualifications were performed due to duplicate criteria.

9. Target Compound Identity\Quantitation:

VOA: Quality control criteria were met.

A TIC was discovered in samples FA-A31 and FA-A33. It was n-Methyl 1-Octanamine.

BNA: Quality control criteria were met. Two TIC(s) were discovered. One each in samples FA-A38 and FA-A42.

These were pentacosome and octacosame.

PEST/PCB: Quality control criteria were met.

10. Case Assessment:

VOA: There were no notable problems with VOA data. It is acceptable.

BNA: There were no notable problems with BNA data. It is acceptable.

PEST/PCB: Standards were not run every five samples. There were no other notable problems. Results are acceptable.

88e Name and Code: Miles Flood Landfill TXD980697072 Case Number: 20256 Concentrations in micrograms/fdlogram (ug/kg) Complied by: Fluor Daniel, Inc. Trai

Traffic Number:	FA-A31	FA-A32	FA-A33	FA-A34	FA-A35	FA-A36	FA-A37
Matrix:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Percent Moisture	19	22	21	19	22	22	28
Location	SS-01	88-05	\$\$-07	SS-02	89-04	SS-06	99-03
and/or Sample Description:					DUPLICATE OF FA-A32		

		Sample Description:		-							DUPLICATE OF FA - A32					
COMPOUND NAME	CAS NO.	CLASS	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	T
Chloromethane	74-87-3														Manufacture 1971	
Bromomethane	74-83-9	VOA							Contract of the Contract of th							
Vinyi Chlorida	75-01-4	VOA														
Chloroethane	75-00-3	VOA										0.01				
Methylene Chloride	75-09-2	VOA				10		10							+	
Acetone	87-84-1	VOA				173				100						
Carbon Disulfice	75-15-0	VOA														
1,1 - Dichloroethene	78-35-4							13				100		13		
1,1-Dichloroethane	75-34-3															
1,2-Dichloroethene (total)	540-59-0															
Chloroform	67-66-3			1		1										-
1,2-Dichloroethane	107-06-2					3.53										
2-Butanone	78-93-3															10
1,1,1 - Trichloroethane	71-55-6											(17				
Carbon tetrachloride	56-23-5	VOA														
Bromodichloromethane	75-27-4															
1,2-Dichloropropane	78-87-5											0.16				
cis - 1,3 - Dichloropropens	10061-01-5			0												
Trichlorosthene	79-01-6															
Dibromoshioromethane	124-48-1			- 3										-		
1,1,2-Trichloroethane	79-00-5															
Benzens	71-43-2	VOA														
Trans - 1,3 - Dichloropropene	10061-02-6	VOA		-	7.00					1 5				115		
Bromoform	75-25-2	VOA														
4-Methyl-2-Pentanone	108-10-1	VOA								1						
2-Hexanone	591-78-6	VOA								1 3		0.00				
Tetrachioroethene	127 - 18 - 4	VOA								1						
1,1,2,2-Tetrachioroethane	79-34-5	VOA														
Toluene	108-88-3	VOA										1 3		7		
Chlorobenzene	108-90-7	VOA														
Ethylbenzene	100-41-4	VOA														
Styrene	100-42-5	VOA										1 3				
Xylene (total)	1330 - 20 - 7	VOA			-				-		CONTRACTOR OF THE PERSON NAMED IN	-				

- EXTRINE (cotal)

 LEGEND

 U The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

 J The associated numerical value is an estimated quantity.

 R— Date for enably is unusuable (compound may or may not be present).

 N— Presumptive evidence of presence of the material.

 NJ— Presumptive evidence of the presence of the material at an estimated quantity.

 UJ The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

B:(VOABLK

Bits Name and Code: Miles Flood Landfill TXD 980097072
Case Number; 20258
Concentiations in micrograms/fslogram (ug/kg)
Compiled by: Fluor Daniel, Inc.
Traft

Traffic Number:	FA-A38	FA-A39	FA-A40	FA-A41	FA-A42 1	-
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	
Percent Moisture:	18	22	14	21	25	
Location and/or Sample	SS-06	SD-09	SD-10	SD-11	SD-12	

	7	-		_		property.		-	-	_						-
COMPOUND NAME	CAS NO.	CLASS	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	
Chloromethane	74-87-3	VOA														Г
Bromomethane	74-83-9															
Vinyi Chloride	75-01-4	VOA				1										r
Chloroethane	75-00-3	VOA														1
Methylene Chloride	75-09-2	VOA												10		1
Acetone	67-64-1	VOA														
Carbon Disulfide	75-15-0	VOA		100												
1,1 - Dichloroethene	75-35-4	VOA							7			7.7				
1,1 - Dichlorosthans	75-34-3	VOA										1				
1,2 - Dichloroethene (total)	540-59-0															
Chloroform	67-66-3	VOA				1										-
1,2-Dichloroethane	107-06-2	VOA														
2-Butanone	78-93-3	VOA		10						7	-					1
1,1,1-Trichloroethane	71-55-6	VOA												-		
Carbon tetrachloride	56-23-5	VOA														
Bromodichlorom sthane	75-27-4	VOA													-	1
1,2-Dichloropropane	78-87-5	VOA														
cls - 1,3 - Dichloropropene	10061-01-5	VOA		3											The state of the s	
Trichloroethene	79-01-6	VOA													-	
Dibromochloromethane	124-48-1	VOA		111												
1,1,2-Trichloroethans	79-00-5	VOA												7	-	
Benzene	71-43-2	VOA								. 1						
Trans - 1,3 - Dichloropropene	10061-02-6	VOA														
Bromoform	75-25-2	VOA														
4 - Methyl - 2 - Pentanone	108-10-1	VOA						1								
2 - Hexanone	591-78-8	VOA														
Tetrachioroethene	127-18-4	VOA														
1.1.2.2 - Tetrachloroethane	79-34-5	VOA														_
Toluens	108-88-3	VOA						1								-
Chlorobenzene	108-90-7	VOA												-	7000	-
Ethylbenzene	100-41-4	VOA													-	
Styrene	100-42-5	VOA												-		-
Xylene (total)	1330-20-7											-	-			
FOEND	1 .000 20 1	101	Dame or other party or other party	orest	NAME AND ADDRESS OF	enend	NAME OF TAXABLE PARTY.	anud	and a principal principal parties of	-	ACCORDING TO SERVICE OF	word	AND DESCRIPTION OF THE PARTY OF	mak	THE RESIDENCE AND ADDRESS OF THE	100

- LEGEND

 U The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

 J The associated numerical value is an estimated quantity.

 R Date for canapha is unusually is (compound may or may not be present).

 N Presumptive evidence of presence of the material at an estimated quantity.

 UJ The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

 UJ The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

B:WOABLK

04/28/93

CHEMICAL DATA SUMMARY

Bits Name and Code: Miles Road LF TXD98097072 Case Number: 20258 Concentrations in micrograms/fdlogram (ug/kg) Complied by: Fauor Daniel, Inc.

Traffic Number:	FA-A31	FA-A32	FA-A33	FA-A34	FA-A35	FA-A36	FA-A3
Matrix	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Percent Moisture:	19	22	21	19	22	22	28
Location and/or Sample Description:	S9-01	SS-05	\$S-07	SS-02	SS-04 Field Duplicate of FA-A32	SS-06	\$6-03

		rescription:									OFFA-A32					
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	6
Phenol	108-95-2															ij
bis(2-Chloroethyf)Ether	111-44-4															
2-Chlorophenol	95-57-8	BNA														ä
1,3-Dichlorobenzene	541-73-1															i
1,4-Dichlorobenzene	108-46-7	BNA							7.1	100						
1,2-Dichlorobenzene	95-50-1	BNA														
2-Methylphenol	95-48-7	BNA								1111						
2,2'-Oxybis(1-Chloropropane)	108-60-1	BNA														Ü
2,2' - Oxybis(1 - Chloropropane) 4 - Methylphenol	108-44-5															
N - Nitroso - Di - n - Propytamina	621-64-7															
Hexachloroethane	67-72-1	BNA														6
Nitrobenzene	98-95-3															
sophorone	78-59-1	BNA		1												
2 - Nitrophenal	88-75-5	BNA														
2,4 - Dimethylphanol	105-67-9															
bis (2 - Chloroethoxy) Methane	111-91-1															ú
2,4-Dichlorophenol	120-83-2															
1,2,4-Trichlorobenzene	120-82-1													1		
Naphthalene	91-20-3					1										d
4-Chloroenitine	106-47-8	BNA		1						-				- 2		3
HexachloroDetacliene	87-68-3	BNA		1												ß
4-Chlorp-3-Methylphanol	59-50-7	BNA										100				
2-Methylnaphthalene	91-57-6	BNA														
Hexachlorocyclopentacliene	77-47-4	BNA														d
2.4.8 - Trichlorophenox	88-06-2	BNA														1
2.4.5-Trichlorophenol	95-95-4	BNA														
2-Chloronaphthaiene	91-58-7	BNA														ij
2-Nitrosniline	88-74-4	BNA														a
Dimothyl Phthalate	131-11-3	BNA														i
Acenaphthylene	208-96-8															i
2.6 - Dingrotpluene	606-20-2			1												
3-Nitropoline	99-09-2							1	-							
Aceraphthelene	83-32-9															
EGENO	and the same of the same of	10	Commence of the Owner, where the Party of	-	Annest annual residence	-	Andrew Market and American	-	The second second	-	And in case of the last of the last of	-	The same of the sa	-	And in concession of the last	er!

IFOCIND

1. The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

B. – Analyte was detected in the blank.

J. – The associated numerical value is an estimated quantity.

R. – Date for analyte is unusable (compound may or may not be present).

R. – Date for analyte is unusable (compound may or may not be present).

R. – Presumptive evidence of presence of the material at an estimated quantity.

UJ. – The material was analyzed to, but was not detected. The sample quantitation limit is an estimated quantity.

B:\SO6TH2.ABN

Site Name and Code: Miles Road LF TXD980897072 Case Number: 20258 Concentrations in micrograms/kilogram (ug/kg)

Compiled by: Fluor Daniel, Inc.	Traffi	c Number: Matrix	FA-A31 SOIL		FA-A32 SOIL	_	FA-A33 SOIL		FA-A34 SOIL		FA-A35 SOIL		FA-A3C SOIL		FA-A37 SOIL
	Dances	t Moisture:	19	-	22	-	21	-	19	-	22	_		-	28
	Percen	Location	55-01	-	\$5-05	-	SS-07	-	99-02		\$8-04	-	22 SS - 06		\$5-03
		and/or	33-01		25-05		99-07		99-02		35-04		55-05		39-03
		Sample									Field Duplicat				
	D	escription									of FA-A32				
COMPOUND NAME	CAE NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration
2.4-Dintrophenol	51-28-5	BNA													
4-Nitrophenol	100-02-7	BNA		100											
Dibenzoluran	132-64-9	BNA												100	
2,4-Divitrotoluena	121-14-2	BNA													1000
Diethylphthalate	84-86-2	BNA								1.0					
4-Chlorophenyl-phenylether	7005-72-3	BNA		1											
Fluorene	86-73-7	BNA			O. T. C.										
4-Nitroanitine	100-01-6	BNA		1953						-					
4.6-Dinitro-2-Methylphanol	534-52-1	BNA													
N - Nitrosodiphenylamine(1)	86-30-6	BNA													
4 - Bromophenyl - phenylether	101-55-3	BNA					-								
Hexachlorobenzene	118-74-1	BNA													
Pentachiorophenol	87-86-5				-	-	-	1							
Phenanthrane	85-01-8	BNA		*****		-				-		-	-		
Anthracene	120-12-7	BNA													
Carbazolo	86-74-8	BNA								-					
DI - n - Butylohthalate	84-74-2	BNA		1											
Fluoranthene	206-44-0		-		-									-	
Pyrene	129-00-0	BNA		-										7	
Butythenzythathalate	85-68-7	BNA		-		-				-		-	-		
3.3' - Dichlorobenzidine	81-94-1	BNA							-						
Benzo(s) Anthracene	56-55-3	BNA		-		-									
Chrysena	218-01-9	BNA	-	-								-	-	-	
ola (2 - Ethythexyt) Phthalato	117-81-7	BNA		-				-						-	
Di-n-Octyl Phthalate	117-84-0	BNA		-	-				-	-		-		-	
Benzofb)Fluoranthene	205-99-2	BNA		-	-	-	-	-	-					-	
denzo(b) Fluoranthene denzo(k) Fluoranthene		BNA	-	-	-	-	-	-				-	-	-	-
	207-08-9	BNA	-	-		-	-	-	-			-			
Benzo(a)Pyrene	50-32-8					-		-	-	-		-	-	-	
ndeno(1,2,3-cd)Pyrane	193-39-5	BNA	-	_	-	-		-		-				-	
Bibenz(a,h)Anthracene	53-70-3	BNA	-			-	-	-	-	_	-	-		-	
Benzolg h APerriene	191-24-2	BNA	THE REAL PROPERTY.	-	-	-	THE RESIDENCE OF THE PARTY OF	1	-	_	-	-	-	-	Construence Construence

Bite Name and Code: Miles Road LF TXD980697072 Case Number: 20258

Concentrations in micrograms/kilogram (s Compiled by: Fluor Daniel, Inc.	Traff Percer	k Number: Matrix It Moisture: Location and/or Sample lescription:	FA-A38 SOIL 18 SS-08		FA-A39 SOIL 22 SD-09		FA-A40 SOIL 14 SD-10		FA-A41 SOIL 21 SD-11		FA - A42 SOIL 25 SO - 12					
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	To
Phenol	108-95-2	BNA														T
bis (2-Chloroethy) Ether	111-44-4	BNA						-								3
2-Chlorophenol	95-57-8	BNA														
1,3-Dichlorobenzene	541-73-1	BNA														T
1,4-Dichlorobenzene	106-46-7	BNA														
1.2-Dichlorobenzene	95-50-1	BNA														1
2-Methylphenol	95-48-7	BNA														10
2,2'-Oxybis(1-Chioropropans)	108-60-1	BNA														
4 - Methylphenol	106-44-5	BNA														
N-Nitroso-DI-n-Propylamine	621-64-7	BNA												1000		
Hexachiorosthane	67-72-1	BNA														1
Nitrobenzene	98-95-3	BNA														10
Isophorone	78-59-1	BNA														I
2-Nitrophenol	88-75-5	BNA														I
2.4 - Dimethylphenol	105-67-9	ENA														
bis (2 - Chloroethoxy) Methane	111-91-1	BNA														1
2.4-Dichlorophenol	120-83-2	BNA						0.77								1
1,2,4-Trichlorobenzene	120-82-1	BNA							-							L
Naphthalang	91-20-3	BNA														1.
4-Chloroanilina	108-47-8	BNA														1
Herachlorobutaciene	87-68-3	BNA														1
4-Chloro-3-Methylphanol	59-50-7	BNA														1
2-Methylnaphthalene	91-57-6	BNA												0.04		
Hexachlorocyclopentadiene	77-47-4	BNA			100											1
2,4,6-Trichlorophenol	88-06-2	BNA				100										1
2,4,5-Trichlorophanol	95-95-4	BNA														
2-Chloronaphthalene	91-58-7	BNA														1
2-Nitroaniline	88-74-4	BNA														4
Dimethyl Phthalate	131-11-3	BNA										_			-	4
Acenaphthylene	208-96-8	BNA														4
2,6-Dinitrotoluene	606-20-2	BNA														4
3-Nitroaniline	99-09-2	BNA														4
Acenechthelene	83-32-9	BNA			Lancas Street,	_	and the same of th	_	-	_	-	_	CONTRACTOR STATE	Long	ALICCUS PROPERTY OF THE PARTY O	1

3-72-9 DNA
Acquisite bindings
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B:\SOBTH2.ABN

Site Name and Cods: Miles Road LF TXD960697072 Case Number: 20258

Concentrations to micrograms/idiogram Compiled by: Fluor Daniel, Inc.	Traffi Percen	Matrix Moisture Location and/or Sample escription	FA-A38 SOIL 18 SS-08		FA-A39 SOIL 22 SD-09		FA-A40 SOIL 14 SD-10		FA-A41 SOIL 21 SO-11		FA - A42 SOIL 25 SO - 12			
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration C	Concentration
2.4-Dintrophenol	51-28-5	BNA												
4-Nitrophenol	100-02-7	BNA				100								
Dibenzofuran	132-64-9	BNA												
2.4-Dinitrotoluene	121-14-2	BNA				60		100						
Diethylphthalate	84-66-2	BNA				100								
4-Chlorophenyl-phanylether	7005-72-3	BNA						000			200			
Fluorene	86-73-7	BNA				11.1								
4 - Nitroaniline	100-01-6	BNA												
4.6-Dinitro-2-Methylphenol	534-52-1	BNA												
N-Nitrosodiphenylamine(1)	66-30-6	BNA				575								
4-Bromophenyl-phenylether	101-55-3	BNA				740								
Haxachiorobanzene	118-74-1	BNA												
Pentachiorophenol	87-86-5	BNA				0.01								
Phenanthrene	85-01-8	BNA												
Anthracene	120-12-7	BNA				100								
Carbazole	86 - 74 - 8	BNA												
Oi-n-Butylphthalate	84-74-2	BNA												
Fluoranthene	206-44-0	BNA												
Pyrone	129-00-0	BNA												
ButythenzytoMhalale	85-68-7	BNA	Torrison to the second											
3.3' - Dichlorobenzidine	91-94-1	BNA												
Benzo(a) Anthracenc	56-55-3	BNA												
Chrysene	218-01-9	BNA	100-110-5-11											
his P - Ethytheryt Phthaiste	117-81-7	BNA	7.5											
bis (2 - Ethylhexyl) Phthalate Di-n - Octyl Phthalate	117-84-0	BNA												
Benzofb)Fluoranthene	205-99-2	BNA												
Benzo80Fluoranthene	207-08-9	BNA				003								
Benzo(a)Pyrene	50-32-8	BNA								1				
indeno(1,2,3-cd)Pyrene	193-39-5	ENA							111111111111111111111111111111111111111		7			
Ribenzie hiAnthracene	53-70-3									1				

- Bibergia JiAnthraciene 53-70-3 BNA | BNA |

B 1806TH2 ABN

Site Name and Code: Case Number: Concentrations in micrograms/kil Compiled by: Fixor Daniel, Inc.			,TXD960697072		HEMICAL DA	14:										
The state of the s		Traffic Number:	FA-A31		FA-A32		FA-A33		FA-A34		FA-A35		FA-A36		FA-A37	
		Matrix	SOIL		SOL		SOIL		SOL		SOL		SOIL		SOL	
	P	ercent Moisture: Location	19 SS-01		99-05	_	SS-07		19 SS-02		99-04	1	\$8-06		26 55-03	
		and/or Sample Description:	33-0		33-00		33-07		35-02		FIELD DUPLICATE of FA-A22	The second second	35-16		33-03	
COMPOUND NAME	CAS NO.	CLASS	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	n
alpha - BHC	319-84-6	PEST/PCB							-							7
beta - BHC	319-85-7	PEST/PCB														П
delta-BHC	319-86-8	PEST/PCB		IN			/			1						7
gamma-BHC(Lindane)	58-89-9	PEST/PCB		1 8								. 1				d
Heptachlor	78-44-8	PEST/PCB														1
Aldrin	309-00-2	PEST/PCB														
Heptachlor epoxice	1024-57-3	PEST/PCB	2.1	U	2.2	U	2.2	U	2.1	U	2.2	U	2.2	U	7.6	ő
Endosullan I	959-98-8	PEST/PCB														ä
Dieldren	80-87-1	PEST/PCB	4.1	U	4.3	U	4.2	U	4.1	U	4.2	U	4.2	U	44	ï
4,4'-DDE	72-55-9	PEST/PCB	4.1	U	4.3	U	4.2	U	4.1	U	4.2	U	4.2	U	8.2	i
Endrin	72-20-8	PEST/PCB														ä
Endosullan II	33213-65-9															ä
4.4'-DDD	72-54-8	PEST/PCB	4.1	U	4.3	U	4.2	U	4.1	U	5.1		4.2	U	34	ě.
Endosultan sulfate	1031-07-8	PEST/PCB														ä
4.4'-DDT	50-29-3	PEST/PCB										CIT				i
Methoxychlor	72-43-5	PEST/PCB														1
Endrin ketone	53494-70-5	PEST/PCB			Long December 1	1										1
Endrin aldehyde	7421-93-4													175		4
alpha - Chiprdane	5103-71-9	PEST/PCB	2.1		4.6		2.2	U	2.1		7.9		2.2		140	4
gamma - Chiordane	5103-74-2	PEST/PCB	2.1	U	4.5		2.2	U	2.1	U	7.6		2.2	U	210	£
Toxaphene	8001-35-2													100	LV	4
Arpcior - 1018	12674-11-2								7							1
Aroclor - 1221	11104-28-2	PEST/PCB		100		1								10		1
Aroclor - 1232	11141-16-5	PEST/PCB														1
Arocior - 1242	53469-21-9	PEST/PCB														1
Arpclor - 1248	12672-29-8	PEST/PCB														j
Aroclor - 1254	11097-69-1	PEST/PCB														1
Aroclor - 1260	11096-82-5	PEST/PCB		110												4

- I-CO-IND

 U The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation kind.

 B Analyse was detected in the blank.

 J The associated numerical value is an estimated quantity.

 R Date for analyte is unusable (compound may or may not be present).

 N Presumptive evidence of presence of the material.

 N Presumptive evidence of the presence of the material at an estimated quantity.

 UJ The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

B:\peatblk

Bite Name and Code: MILES ROAD LAN Case Number: 20258 Concentrations in micrograms/killogram (ug/kg) Compiled by: Fluor Daniel, Inc.

MILES ROAD LANDFILL,

		Location and/or Sample Description:	\$S-06		SD-09		SD-10		SD-11		SO-12				
COMPOUND NAME	CAS NO.	CLASS	Concentration	Q	Concentration	Q	Concentration	9	Concentration	Q	Concentration	Q	Concentration	Q	Concentration
alpha - BHC	319-84-6														
beta - BHC	319-85-7														
delta-BHC	319-86-8														
gamma - BHC(Lindane)		PEST/PCB												7.00	
Heptachlor		PEST/PCB												CH	
Aldrin	309-00-2			150											
Heptachlor epoxide	1024-57-3		2.1	U	2.2	U	2	U	2.2	U	2.3	U			
Endosultan I	959-98-8													, Y	
Dieldren		PEST/PCB	4	U	4.2		3.8				4.4				
4,4'-DDE		PEST/PCB	4	U	4.2	U	3.8	U	4.2	U	4.4	U		1	
Endrin		PEST/PCB						-							
Endosulfan II	33213-65-9	PEST/PCB													
4.4'-DDD		PEST/PCB	4	U	4.2	U	3.8	U	4.2	U	4.4	U			
Endosultan sulfate	1031-07-8														
4.4'-DDT		PEST/PCB								1119					
Methoxychlor		PEST/PCB												2.2	
Endrin ketone	53494-70-5														
Endrin aldehyde	7421-93-4	PEST/PCB												1117	
alpha - Chlordane	5103-71-9	PEST/PCB	2.1		2.2			U	2.2		2.3				
gamma - Chlordane	5103-74-2	PEST/PCB	2.1	U	2.2	U	2	U	2.2	U	2.3	U			
Toxaphene	8001-35-2	PEST/PCB								1.2				1	
Aroclor - 1018	12674-11-2	PEST/PCB								14.1					
Aroclor - 1221	11104-28-2	PEST/PCB													
Aroclor - 1232	11141-18-5	PEST/PCB													
Aroclor - 1242	53469-21-9	PEST/PCB													
Arocior - 1248	12672-29-6	PEST/PCB							-						
Aroclor - 1254	11097-69-1	PEST/PCB													
Arocior - 1260	11096-82-5	PEST/PCB								-		-			1

Aroclor - 1254

- Arocior 1254

 Arocior 1260

 11096 82 5 | PEST/PCB

 LOEIN

 U The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

 J The associated numerical value is an estimated quantity.

 Pesumptive evidence of presence of the material at an estimated quantity.

 N- Presumptive evidence of the presence of the material at an estimated quantity.

 U.J The material was analyzed for, but was not defected. The sample quantitation limit is an estimated quantity.

B:\pestblk

Concentrations in micrograms/kilogram (i Compiled by: Fluor Daniel, Inc.	Truff	ic Number: Matric t Moisture:	FA-A31 90IL 19		FA-A32 SOIL 22		FA-A33 SOIL 21		FA-A34 SOIL 19		FA-A35 SOIL 22		FA-A36 9C4L 22		*A-A37 9OIL 28	
		Location and/or Sample lescription:	\$\$-01		\$\$-05		SS-07		\$5-02	1	SS-04 Field Duplicat of FA-A32	0	55-06		\$8-03	
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	To
		VOC														Т
N - Methyl - 1 - Octanamine	2439-54-5	TIC	340	JN			420	JN					10.00			
Carbon Dioxide	124-38-9				390	BJN			380	BJN	440	BJN	440	BJH	670	8
		BNA														L
Unknown		TIC	180		110		270		300		280		120		1600	
2-Pentanone, 4-hydroxy-4-Met	123-42-2		8700	824	11000	BIN	14000				12000		14000	8.3%	14000	B
Hydroperoxide, 1,1 - Dimethyle	75-91-2	TIC					120		120		110					1
4-Penten-2-OI	625-31-0		99	BIN	490	BJN			550	BJH	550	534	550	BJN		1
2 - Methyl - 2,3 - Pentanediol	7795-80-4	TIC					250									1
2-Butanol, 1-Methoxy Unknown	53778-73-7	TIC	200 640		250		130		250 230		280	-	270 540		260	+
Unknown		TIC	270		220		140		84		150		540		58	
Unknown		TIC	190		580		400		160		220			-	300	
Unknown		TIC	960		740		280		420		160			-	260	
Octana, 2,4,6 - Trimethyl	62016-37-9		170		740	,	410		450	-	520		-	-	200	1.
Unknown	02010-31-9	TIC	960		68	1	730		400	1	170		80	1	110	1
Unknown		TIC		-	150		1400		340		450		620		45	
Unknown		TIC	-		360				940		110		320		170	
Unknown	1	TIC			-						22	3	(10		200	15
Unknown		TIC									92	1	1300	1	1700	ti
Unknown	1	TIC									340				230	13
Unknown		TIC									200				1000	
Unknown	1	TIC									340				970	J
Unknown		TIC	-				-				370	J				۲
Unknown		TIC									340	J				1
Octacosane	630-2-4	TIC											250	JN		
																I
						-					-					+
																1
																1

U — The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

J — The associated numerical value is an estimated quantity.

J — The associated numerical value is an estimated quantity.

R— Deate for analysis is unumable (compound may or may not be present).

N—Presumptible evidence of presence of the material at an estimated quantity.

UJ — The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

B:WOABLK

8hs Name and Code: Miles Fload LF TXD 980697072 Case Number: 20059 Concentrations in micrograms/kilogram (ug/kg) Compiled by: Fluor Daniel, Inc.

CAS NO.	CLASS	Concurtration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration
	VOC													
		280	BJN	200	BJN	380	JN			250	JN		1	
106-35-4								9	JN					
													1	
	TIC	120	3	80	3			110	J	78	J			
123-42-2				11000	BJN	10000	BIN	14000	BUN	13000	SJN		1	
		510	BJN	400	BJN	380	BJN	840	ван	480	8,714			
53778-73-7							1							
		530	J	160	J	180	J	120	J.	670	J			
										380	J			
	TIC	470	J			250	J	250	J	110	J			
	TIC	970	J			51	3			190	J			
1	TIC	2700	3											
1	TIC					160	J		100					
1				I					- 1				()	
	TIC					3500	J			550	J		0.7	
1	TIC									1100	J			
630-2-4	TIC	1300	JN											The second second
4337-65-9	TIC			940	JN	450	JN	400	JN					
4245-37-8	TIC					240	JN				100			
97-78-9	TIC					140	JN			350	JN			
142-66-33	TIC							220	JN					
										470	JN			
629-59-4	TIC				10.1	400	JN				1			
	TIC									290	JN			-
										1100	JN			
	124-38-9 106-35-4 123-42-2 928-31-0 53778-73-7 630-2-4 4337-65-9 4245-37-8 67-78-9 142-66-33 626-68-2 629-59-4	124 - 38 - 9 106 - 35 - 4 106 - 35 - 4 112 - 42 - 2 112 - 42 - 2 112 - 42 - 2 112 - 112 112 - 112 113 - 112 114 - 112 115 - 112 115 - 112 115 - 112 115 - 115 115 - 11	124-38-9 11C 280 106-35-4 11C 120 123-42-2 11C 13000 1378-73-7 11C 270 11C 11C	124 - 38 - 9 11C 280 km 106 - 35 - 4 11C 120 J 123 - 42 - 2 11C 13000 km 15378 - 73 - 7 11C 270 J 11C 250 J 11C 270 J 11C 120 J 12	124-38-9 VCC 106-39-4 TiC 280 km 200 106-39-4 Etc 120 J 80 106-39-4 Etc 123-42-2 TiC 1300 Jm 1060 106-39-1 TiC 270 J 200 TiC 270 J 106-39-1 TiC 106-39-1	124-38-9 Vic 280 km 200 km 106-39-4 106 106-39-4 106 1	124-38-6 Vic 280 km 200 km 380 106-38-4 Vic 106	124-38-9	124-38-9 VOC 280 km 200 km 380 JH 110 110-39-4 110 280 km 200 km 380 JH 110 110-39-4 110 123-42-2 110 13000 km 11000 km 10000 km 14000 km 140000 km 14000	124-38-9 Vic	124-38-9 Vic	124-38-9	124-38-9 TiC 280 km 200 km 380 JH 110 JH 250 JH 110-39-4 180 JH 110 JH 250 JH 110-39-4 180 JH 110 JH 250 JH 110-39-4 180 JH 1100 JH 250 JH 1100-39-4 180 JH 1	124-38-9 TiC 280 am 200 am 380 JN 110 JN 250 JN 110-35-4 TiC 814A 120 JN 814D 123-42-2 TiC 120 JN 810 JN 1100 JN 1100 JN 1100 JN 123-42-3 TiC 120 JN 123-42-3 TiC 120 JN 120 JM 120 J

B:WOABLK

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ATTACHMENT 5
DRINKING WATER SAMPLE DATA

R160530R200/MILES.FT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 6 HOUSTON BRANCH 10625 FALLSTONE RD. HOUSTON, TEXAS 77099

MEMORANDUM

DATE:

August 12, 1993

SUBJECT:

Notice of Intent to Dispose of Samples

FROM:

Diana G. Ayers, Chief, Houston Branch; 6E-H

TO:

Ragan Broyles, Chief,

Surveillance Branch; 6E-S

The Houston Laboratory is required to dispose of all hazardous wastes we generate in a manner consistent with RCRA regulations. This includes all samples received for analysis provided we find them to contain contaminants which classify them as RCRA hazardous wastes. In addition, any samples found to contain PCBs must be disposed of according to TCSA regulations.

I have included this memorandum in the final analytical report to serve as notice to the program that we have completed all analysis. If we have any of the original sample remaining after analysis is complete we will dispose of it within 90 days. Please note that even though original sample may be left over, it does not mean that a reanalysis of the sample may be requested since the sample has most likely exceeded its holding time and any subsequent analysis may not be valid.

If you have a need to hold these samples in custody longer than 90 days, please sign below and return this memorandum to me within the next 30 days. Also, state briefly your need to hold these samples in custody.

Thank you for your cooperation in this request.

MIT EC	DOAD	T. A BUILDING Y.	COTTE A TOTAL AGO
MILLES	KUAD	LANDFILL	(3TFADW40)

Facility Name

Program Manager

Date



Recycled/Recyclable Printed with SoyrCanda Ink on paper that contains at least 50% recycled fiber

rini



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 6 HOUSTON BRANCH 10825 FALLSTONE RD. HOUSTON, TEXAS 77099

MEMORANDUM

DATE: August 12, 1993

SUBJECT: Laboratory Results for Miles Road Landfill

FROM: Diana G. Ayers, Chief, Houston Branch; 6E-H

TO: Ragan Broyles, Chief, Surveillance Branch; 6E-S

ATTN: Stacey Bennett; 6E-SH

Attached are the analytical results for the subject site. Four water samples were received on July 13, 1993 to be analyzed for ABNs, VOAs, pesticides, PCBs, metals and cyanide. The laboratory numbers assigned to these samples are 3TFADW4001 through 3TFADW4004.

Please note that 44 ppb of bis-(2-ethylhexyl) phthalate was detected in sample number 3TFADW4002.

This is a final report.

Attachments



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
HOUSTON BRANCH
10825 FALLSTONE RD. HOUSTON, TEXAS 77099

MEMORANDUM

Date:

August 12, 1993

Prou:

Michael Daggett, Chief Mr. Organic Section; 6E-HO

To:

Diana Ayers, Chief Houston Branch; 6E-H

Subject: Organic Analysis of Miles Road Landfill.

Attached are the organic results for samples 3TFADW40-01 thru 3TFADW40-04. These samples were analyzed for ABNs, VOAs pesticides and PCBs. There was 44 ug/l (ppb) of bis-(2-ethylhexyl) phthalate detected in sample # 02.

This is a final report.





UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 6 HOUSTON BRANCH 10825 FALLSTONE RD. HOUSTON, TEXAS 77099

MEMORANDUM:

Date: August 12, 1993

Subject: Laboratory Results for Miles Road Landfill

From: David C. Stockton, Chief, Inorganic Lab Section, (6E-HI)

To: Diana G. Ayers, Chief, Houston Branch, (6E-H)

Attached are laboratory results for the subject site. Four (4) water samples we received on July 13, 1993 to be analyzed for metals and cyanide.

The laboratory numbers assigned were 3TFADW4001 through 3TFADW4004.

This is a final report.

Attachments: (4)



Source: MILES ROAD LANDFILL

U.S. Environmental Protection Agency

Houston Branch Management System

August 12, 1993

Report for Sample Number 3TFADW4001

		***************************************		L	STA #13(b) (6)	Site Description:	
	10:55	Bocted: 7/12/93	Dutn/Time Colle		7/13/93 10:00	Time Received:	Dat
		apleted: 8/12/93	Date Comp		DW	Sample Type:	
						Comments:	
Report Date		Status	Section		Description		Parameter
/93	18	COMPLETE	NIC	(UTRALS	ACID/BASE NE	BN
/93	1	COMPLETE	ANIC	1		CYANIDE	N
/93	1	COMPLETE	LS	1	SUBSTANCE LIST	HAZARDOUS S	SL
/93	1	COMPLETE	NIC		NATED BIPHENYLS	POLYCHLORD	СВ
/93	1	COMPLETE	NIC	(PESTICIDES	ES
/93		COMPLETE	NIC		GANIC ANALYSIS	VOLATILE OR	/OA
		-				-	
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PAGE 1 OF 6

Attachment: 1

ORGANIC ANALYSIS DATA

3TFADW40-01 6E-HL Sample NO:

Date Reported:

Analyst: M. HUMPHREY

Sample Type:

WATER

SENT-VOLATILE COMPOUNDS BY METHOD 625

*	units:			. units:	ug/L
BOX BOX BOX MODEL	Results*	Det Limits			Det Limits
Acenaph thene	ND	2	2,4-0initrophenol	NO	30
Acenaphthylene	ND	2 1	2.4-Dinitrotoluene	ND	6
Anthracene	ND	2 1	2.6-Dinitrotoluene	ND	6
Benzidine	ND	20 1	4,6-Dinitro-2-Nethylphenol	NO	20
Benzoic Acid	ND	10	Di-n-Butylphthalate	NO	2
Benzo(a)Anthracene	ND	8 1	Di-n-Octyl Phthalate	ND	4
Benzo(a)Pyrene	NO	8 1	Fluoranthene	NO	2
Benzo(b)fluoranthene	ND		Fluorene	ND	2
Benzo(g,h,i)Perylene	ND	8 1	Hexachlorobenzene	ND	2
Senzo(k)Fluoranthene	ND	8 1	Nexachlorobutadiene	ND	5
Benzyl Alcohol	NO	4 1	Hexachlorocyclopentadiene		10
bis(2-Chloroethoxy)Methane	ND	2 1	Nexachloroethane	NO	7
bis(2-Chloroethyl) Ether	ND	2 1	Indeno(1,2,3-cd) Pyrene	72.57	8
bis(2-chloroisopropyl)Ether	MD	2 1	Isophorone		4
bis-(2-Ethylhexyl)Phthalate	ND	4 1	2-Nethylnaphthalene		,
4-Bromophenylphenyl Ether	ND	8 1	2-Nethylphenol		6
Butylbenzylphthalate		4 1	4-Nethylphenol		6
Carbazole	NO	10	Naphthalene		2
4-Chloroaniline		4 1	2-Witroaniline		8
2-Chloronaphthalene		2 1	3-Nitroaniline		
2-Chlorophenol		7 1	4-Mitrosniline		8
4-Chlorophenylphenyl Ether		8 1	Ní trobenzene		2
4-Chloro-3-Methylphenol		8 1	2-Nitrophenol		10
Chrysene		8 1	4-Nitrophenol		- 13
Dibenzofuran	NO	2 1	N-Nitrosodiphenylamine		4
Dibenzo(a,h)Anthracene			N-Nitroso-Di-n-Propylamine		
1,2-Dichlorobenzene		3 1	Pentachlorophenol		15
1,3-Dichlorobenzene		3 1	Phenanthrene		2
1,4-Dichlorobenzene		3 1	Phenol		
3,3'-Dichlorobenzidine		10	Pyrene		1
2,4-Dichlorophenol		6 1	1,2,4-Trichlorobenzene		1
Diethylphthalate		2 1	2,4,5-Trichtorophenol		7
2,4-0 imethylphenol		6 1	2,4,6-Trichlorophenol		
DimethylPhthalate		2 1	7	-	

^(*) ND = Not detected above the listed detection limit.

Analyst Notes: _____

^(*) ND = Not detected above the listed detection limit.

PAGE 2 OF 6

Attachment: [

ORGANIC AMALYSIS DATA

6E-HL Sample NO:3TFADW40-01

Date Reported: 06-Aug-93

Analyst: N. HUMPHREY

Matrix: WATER

TENTATIVELY IDENTIFIED SENI-VOLATILE COMPOUNDS BY METHOD 625

units: ug/L

RT (min)	CAS #	COMPOUND NAME (*)	Estimated Concentration (**
		No ABM TIC's detected in this sample.	

		••••••	

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(*) AMALTSTS NOTE: The compounds listed are tentatively identified by the best match with the NIN/EPA/Wiley mess spectral data base or by manual interpretation. Standards were not available for confirmation or quantitation.

(**) Estimated concentration is based on a Response Factor of 100 to the nearest internal standard.

PAGE 3 OF 6 Attachment: 1

ORGANIC ANALYSIS DATA

DATE REPORTED: 10-Aug-93

6E-HL SAMPLE NO: 3TFADW40-01 ANALYST: F. Edward O'Neill

SAMPLE TYPE: water

VOLATILE COMPOUNDS BY METHOD 624 units: ug/L

CAS#	Compound Name	Results*	Det	Limits
67-64-1	acetone	ND		5
107-02-8	acrolein	ND		100
107-13-1	acrylonitrile	ND		100
71-43-2	benzene	ND		2
75-27-4	bromodichloromethane	ND		2
75-25-2	bromoform	ND		2
74-83-9	bromomethane	ND		
78-93-3	2-butanone	ND		5 5 5 2
75-15-0	carbon disulfide	ND		5
56-23-5	carbon tetrachloride	ND		2
108-90-7	chlorobenzene	ND		2
75-00-3	chloroethane	ND		5
67-66-3	chloroform	ND		2
74-87-3	chloromethane	ND		2 5 2 2 2
124-48-1	dibromochloromethane	ND		2
75-34-3	1,1-dichloroethane	ND		2
107-06-2	1,2-dichloroethane	ND		2
75-35-4	1,1-dichloroethene	ND		2
156-59-2	cis-1,2-dichloroethene	ND		2 2 2 2 2 2 2
156-60-5	trans-1,2-dichloroethene	ND		2
78-87-5	1,2-dichloropropane	ND		
10061-01-5	cis-1,3-dichloropropene	ND		2
10061-02-6	trans-1,3-dichloropropene	ND		-
100-41-4	ethylbenzene	ND		5
519-78-6	2-hexanone	ND		5
75-09-2	methylene chloride	ND		5
108-10-1	4-methyl-2-pentanone	ND		5 5
100-42-5	styrene	ND		5
79-34-5	1,1,2,2-tetrachloroethane	ND		5
127-18-4	tetrachloroethene	ND		.2
108-88-3	toluene	ND		2
71-55-6	1,1,1-trichloroethane			5
79-00-5	1,1,2-trichloroethane	ND		2 2 2
79-01-6	trichloroethene	ND		2
75-01-4	vinyl chloride	ND		
108-38-3	m- and/or (CAS# 106-42-3)p-xylene	ND		5
95-47-6		ND		5
22-41-0	o-xylene	ND		5

^(*) ND = Not detected above the listed detection limit.

PAGE 4 OF 6 Attachment: 1

ORGANIC ANALYSIS DATA

6E-HL SAMPLE NO: 3TFADW40-01

DATE REPORTED: 10-Aug-93

ANALYST: F. Edward O'Neill

SAMPLE TYPE: water

TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS BY METHOD 624

(min) RT	CAS#	COMPOUND NAME *	ug/L EST. CONC.
1		No VOA TIC's detected in this sample.	
- 1		I	I
1		1	1
1			
1			1
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^{*} ANALYSTS NOTE - THE COMPOUNDS LISTED ARE TENTATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.

^{**}Estimated concentration is based on a RF of 1.0 to internal standard

PARTICIOS/POB ANALYSIS

GES-HL SAMPLE MG.: 3TFACW40 01 DATE REPORTED: 8 / 6/1993 SHIPLE TYPE: WATER MILES ROAD LANCFILL

ANALYST: LARPY STRECK

**************	************************				
CHS4 319-34-6	-1		UG L (PPS		
719-16-7	alpha-Em	NO	2.3'	0.05	
319-14-9	0813-570		Ci		
	delta-End	115		0.05	
58-89-9	gamma-BHC (Lindand)	0	-		
76-44-8	Haptachier				
Fu2-14-1	Mistin estamanananananananananananananananananana	ND	-	0.07	
11237-7	hiptachlor apaxids		DL= 4		
959-98-8	Fodesuling I		21.00	0.05	
60-57-1	Endosulfan I	110	01-1	0.25	
22.77.3	Dieldria	NO	CLAS	0.11	
72-11-5	1,4'.DOE	*10		0.10	
77213-05-9	Endr in		0.44	0.10	
72-74-3	Endatifan 11		5	0.10	
	4,4 (200		DLac		
7421-93-4	Endrin aidihy se			0.10	
73484-70-3	Engrin kating		DL=<	0.10	
1071-27-3	Endosulfan sulfate		0.4	0.10	
79-29-3	4,4'-DDT		DL	0.10	
72-43-5	Methaviehia	MO	DLak	3.10	
5103-71-9	Methaxychist	NE	DL=<	0.50	
5105-74-2	alpha-Chiordane	NO	DL=c	0.05	
3001.76-2	gamma-Chlordane	ND	DL=	0.0F	
12674-11-2	Toxaphene	NO	21.4	F. **	
11104-28-2	Aroclar-1316		80.		
11141-10-7	Anadiar-1221		2	2 23	
	Mrselar-1232	-		2.23	
#3463-21-9	miegio -12-1	77.27.20	DL=<	1.00	
14472-27-6	Arccipr-1248				
1.057-19-1	Arosis: 125	110	21.	1.00	
11094-32-7	n lili illi	-	-	1	
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PAGE 6 OF 6 ATTACHMENTS !

US EPA HOUSTON BRANCH

DATE

REPORTED:

3TFADW40-01 SAMPLE #: SOURCE:

DATE MILES ROAD LANDFILL RECEIVED:

13-Jul-93

12-Aug-93

UG/L

MG/L

AQUEOUS TYPE: ANALYSTS: RC, LC, JL

DETECTION PARAMETER CONCENTRATION LIMIT <= UNITS ALUMINUM 100 UG/L ANTIMONY ND 60 UG/L ARSENIC 5.8 ND UG/L BARIUM 34 10 BERYLLIUM ND 5 CADMIUM ND 5 CALCIUM 68100 150 CHROMIUM ND 10 COBALT ND COPPER 24 20 IRON 43 25 LEAD ND 3.3 MAGNESIUM 16300 150 MANGANESE 21 5 0.2 20 MERCURY ND NICKEL ND POTASSIUM 1390 1000 SELENIUM ND 5.8 SILVER ND 10 SODIUM 152000 500 THALLIUM ND 10 VANADIUM ND

30

20

0.02

ND: LESS THAN DETECTION LIMIT

191

ND

ZINC

CYANIDE



U.S. Environmental Protection Agency
Houston Branch Management System

August 12, 1993

Report	for Sample Number	3TFADW4002
reput	Joi mample Mambel	311710117001

	Source:	MILES ROAD LANDFILL			
Site Description: STA #14(D) (6) WELL					
Det	te/Time Received:	7/13/93 10:00	Date/Time	Collected: 7/12/93 10:55	
	Sample Type:	DW	Date	Completed: 8/12/93	
	Comments:				
Parameter		Description	Section	Status	Report Date
ABN	ACID/BASE NE	EUTRALS	ORGANIC	COMPLETE	8/12/93
CN	CYANIDE		INORGANIC	COMPLETE	8/12/93
HSL	HAZARDOUS S	SUBSTANCE LIST	METALS	COMPLETE	8/12/93
СВ	POLYCHLORI	NATED BIPHENYLS	ORGANIC	COMPLETE	8/12/93
ES	PESTICIDES		ORGANIC	COMPLETE	8/12/93
VOA	VOLATILE OR	GANIC ANALYSIS	ORGANIC	COMPLETE	8/12/93
-					
-		***************************************			
-					

PAGE 1 OF 6

Attachment: 2

ORGANIC ANALYSIS DATA

3TFADW40-02

Analyst: M. HUMPHREY

Sample Type:

WATER

SENT-VOLATILE COMPOUNDS BY HETHOD 625

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	units:		********************************	units:	ug/L .
		Det Limits	Compound Name	- House and a	Det Limit
Acenaphthene	ND	2	2,4-0initrophenol	ND	3/
Acenaphthylene	MD	2 1	2,4-Dinitrotoluene	MD	
Anthracene	MD	2	2,6-Dinitrotoluene	MD	
Benzidine	ND	20	4,6-0initro-2-Methylphenol	ND	2
Benzoic Acid	MO	10	Di-n-Butylphthalate	ND	
Benzo(a)Anthracene	MD	8	Di-n-Octyl Phthalate	MD	
Benzo(a)Pyrene	ND	8	Fluoranthene	ND	
Benzo(b)Fluoranthene	ND	8	Fluorene	ND	
Benzo(g,h,i)Perylene	MD	8	Hexachlorobenzene	NO	
Benzo(k)Fluoranthene	NO	8	Hexachlorobutadiene	NO	
Benzyl Alcohol	NO	4 1	Hexachlorocyclopentadiene	NO	1
bis(2-Chloroethoxy)Methane	HD	2	Hexachloroethane	NO	
bis(2-Chloroethyl) Ether	MO	2	Indeno(1,2,3-cd) Pyrene	NO	
bis(2-chloroisopropyl)Ether	MD	2	Isophorone	NO	
bis-(2-Ethylhexyl)Phthalate	44.0	4 1	2-Methylnaphthalene	ND	
4-Bromophenylphenyl Ether	NO	8	2-Hethylphenol	ND	
Butylbenzylphthalate	MD	4	4-Methylphenol	NO	
Carbazole	ND	10	Naphthalene	HD	
4-Chloroeniline	ND	4 1	2-Mitroaniline	ND	
2-Chloronaphthalene	NO	2	3-Mitroaniline	NO	
2-Chlorophenol	ND	4	4-Mitroaniline	ND	
4-Chlorophenylphenyl Ether	MD	8	Nitrobenzene	NO	
4-Chioro-3-Methylphanol	ND	8	2-Witrophenol	MO	1
Chrysene	MD	8	4-Witrophenol	NO	* *
Dibenzofuran	ND	2	N-Witrosodiphenylamine	MO	
Dibenzo(a,h)Anthracene	MD	8	N-Witroso-Di-n-Propylamine	MO	
1,2-Dichlorobenzene	ND	3	Pentachlorophenol	NO	
1,3-Dichlorobenzene	ND	3	Phenanthrene	NO	
1,4-Dichlorobenzene	MD	3	Phenol		
3,3'-Dichtorobenzidine	MO	10	Pyrene	ND	
2,4-Dichlorophenol	MD	6	1,2,4-Trichtorobenzene	NO	
Diethylphthelate	NO	2	2,4,5-Trichlorophenol	NO	
2,4-Dimethylphenol		6	2,4,6-Trichlorophenol		
DimethylPhthalate	MD	2	/		

^(*) ND = Not detected above the listed detection limit.

Analyst Notes:

^(*) ND = Not detected above the listed detection limit.

PAGE 2 OF 6

Attachment: 2

GREANIC ANALYSIS DATA

6E-HL Sample NO:3TFADU40-02

Date Reported: 06-Aug-93

Analyst:

N. HUMPHREY

Matrix: WATER

TENTATIVELY IDENTIFIED SENI-VOLATILE COMPOUNDS BY METHOD 625

units: ug/L

RT (min)	CAS #	COMPOUND MARE (*)	Estimated Concentration (**
!	!	No ABN TIC's detected in this sample.	

^(*) AMALYSTS MOTE: The compounds listed are tentatively identified by the best match with the NIM/EPA/Wiley mass spectral data base or by manual interpretation. Standards were not available for confirmation or quantitation.

^(**) Estimated concentration is based on a Response Factor of f.O to the nearest internal standard.

PAGE 3 OF 6 Attachment: 2

ORGANIC ANALYSIS DATA

6E-HL SAMPLE NO: 3TFADW40-02

DATE REPORTED: 10-Aug-93

ANALYST: F. Edward O'Neill SAMPLE TYPE: water

VOLATILE COMPOUNDS BY METHOD 624 units: ug/L

CAS#	Compound Name	Results*	Det Limits
67-64-1	acetone	ND	5
107-02-8	acrolein	ND	100
107-13-1	acrylonitrile	ND	100
71-43-2	benzene	ND	2
75-27-4	bromodichloromethane	ND	2
75-25-2	bromoform	ND	2
74-83-9	bromomethane	ND	5
78-93-3	2-butanone	ND	
75-15-0	carbon disulfide	ND	5
56-23-5	carbon tetrachloride	ND	5
108-90-7	chlorobenzene	ND	2
75-00-3	chloroethane	ND	5
67-66-3	chloroform	ND	2
74-87-3	chloromethane	ND	
124-48-1	dibromochloromethane	ND	2
75-34-3	1,1-dichloroethane	ND	2
107-06-2	1,2-dichloroethane	ND	2
75-35-4	1,1-dichloroethene	ND	5 2 2 2 2
156-59-2	cis-1,2-dichloroethene	ND	
156-60-5	trans-1,2-dichloroethene	ND	- 2
78-87-5	1,2-dichloropropane	ND	2
10061-01-5	cis-1,3-dichloropropene	ND	2
10061-02-6	trans-1,3-dichloropropene	ND	2
100-41-4	ethylbenzene	ND	
519-78-6	2-hexanone	ND	
75-09-2	methylene chloride	ND	
108-10-1	4-methyl-2-pentanone	ND	
100-42-5	styrene	ND	
79-34-5	1,1,2,2-tetrachloroethane	ND	,
127-18-4	tetrachloroethene	ND	
108-88-3	toluene	ND	
71-55-6	1,1,1-trichloroethane	ND	
79-00-5	1,1,2-trichloroethane	ND	
79-01-6	trichloroethene	ND	
75-01-4	vinyl chloride	ND	
108-38-3	m- and/or (CAS# 106-42-3)p-xylene	ND	
95-47-6	o-xylene	ND	

^(*) ND = Not detected above the listed detection limit.

PAGE 4 OF 6 Attachment: 2

ORGANIC ANALYSIS DATA

6E-HL SAMPLE NO: 3TFADW40-02

DATE REPORTED: 10-Aug-93

ANALYST: F. Edward O'Neill

SAMPLE TYPE: water

TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS BY METHOD 624

CONC	ug/L EST.		*	OUND NAME	COMP	1	CAS#	(min) RT
	1	sample.	in this	detected	A TIC's	No VO		<u> </u>
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^{*} ANALYSTS NOTE - THE COMPOUNDS LISTED ARE TENTATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.

^{**}Estimated concentration is based on a RF of 1.0 to internal standard

140250F6

111111 2

PISTICIOS POS ANALYSIS

SAUFLE TYPE: WATER MILES RING LANGFILL

ANALYST: LARR: STREEK

4	CRARISTAN STRAIN	212144777777777777777777777777777777777				
	Calv			2 1 2	(278°	
	713-8	4 ipha-8.12				
	319-37-7	beta-EHC		0,1		
	319-30-5	dalta-dal		DL=	0.05	
	T3-93 4	genma-SHC (Lindana)	110	-	2.45	
	763		HE	DL=	0.07	
	309-10-2	Heptachlor	NO	0 -	0.05	
	1024-57-3	Aldrin	1.0	DL=	0.05	
	909-93-3	Heptuchiar apaxide	ND	DLac	0.05	
	60-57-	Endosulfan I	ND	DL=	0.05	
	72-99-9	Dieidrin	ND	DL=c		
	72-20-8	4,4'-DOE	ND			
	33213-65-9	Endrin	ND			
		Endosulfan II	ND	1.00		
	72-84-8	4,4'-000	ND			
	7421-93-4	Endrin aldehyde	0.000	DL=	0.10	
	53494-70-5	Endrin ketane	ND			
	1031-07-8	Endosulfan sulface	ND	-	0.10	
	50-29-3	4,4'-DOT	ND	-	0.10	
	72-43-5	Methaxychlor	0.000		0.10	
	5103-71-9	alpha-Chiordane	ND		0.50	
	5103-74-2	gamma-Chlordane	ND		0.05	
	8001-35-2	Toxaphene	ND	DL+	0.05	
	12674-11-2	Arcclar-1016	ND		5.00	
	11104-28-2	Aroclar-1221	ND	DL=<	1.00	
	11141-16-5		ND	DL= <	2.00	
	53469-21-9		ND	DL= <	1.00	
	12672-29-6		ND	DL= 4	1.00	
	11097-59-1		ND	DL=<	1.00	
	11096-82-5	Araclar-1254	ND	DLac	1.00	
	******	Aroclar-1260	NO	DL=4	1.00	
					(7-15-10)(0)	

NO DL - NOT DETECTED, DETECTION LIMIT

PAGE 6 OF 6 ATTACHMENTS 2

US EPA HOUSTON BRANCH

SAMPLE #: SOURCE: TYPE: ANALYSTS: 3TFADW40-02 MILES ROAD LANDFILL AQUEOUS RC, LC, JL DATE RECEIVED:

13-Jul-93 DATE REPORTED: 12-Aug-93

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ALUMINUM	ND	100	UG/L
ANTIMONY	ND	60	UG/L
ARSENIC	ND	5.8	UG/L
BARIUM	37	10	UG/L
BERYLLIUM	ND	5	UG/L
CADMIUM	ND	5	UG/L
CALCIUM	70200	150	UG/L
CHROMIUM	ND	10	UG/L
COBALT	ND	20	UG/L
COPPER	29	20	UG/L
IRON	42	25	UG/L
LEAD	ND	3.3	UG/L
MAGNESIUM	16900	150	UG/L
MANGANESE	21	5	UG/L
MERCURY	ND	0.2	UG/L
NICKEL	ND	20	UG/L
POTASSIUM	ND	1000	UG/L
SELENIUM	ND	5.8	UG/L
SILVER	ND	10	UG/L
SODIUM	158000	500	UG/L
PHALLIUM	ND	10	UG/L
ANADIUM	ND	30	UG/L
ZINC	199	20	UG/L
CYANIDE	ND	0.02	MG/L

ND: LESS THAN DETECTION LIMIT



U.S. Environmental Protection Agency Houston Branch Management System August 12, 1993

Report for Sample Number 3TFADW4003

Source:	MILES ROAD LANDFILL		
Site Description:	STA #15, TRIP BLANK		
Date/Time Received:	7/13/93 10:00	Date/Time Collected:	7/12/93 12:00
Sample Type:	DW	Date Completed:	8/12/93
Comments			

Parameter	Description	Section	Status	Report Date
ABN	ACID/BASE NEUTRALS	ORGANIC	COMPLETE	8/12/93
CN	CYANIDE	INORGANIC	COMPLETE	8/12/93
HSL	HAZARDOUS SUBSTANCE LIST	METALS	COMPLETE	8/12/93
PCB	POLYCHLORINATED BIPHENYLS	ORGANIC	COMPLETE	8/12/93
PES	PESTICIDES	ORGANIC	COMPLETE	8/12/93
VOA	VOLATILE ORGANIC ANALYSIS	ORGANIC	COMPLETE	8/12/93
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PAGE 1 0F 6

Attachment: 3

ORGANIC ANALYSIS DATA

6E-HL Sample NO: 3TFADU40-65

Date Reported:

06-Aug-93

Analyst: M. HUMPHREY

Sample Type: WATER

SEMI-VOLATILE COMPOUNDS BY METHOD 625

units: ug/L

uniter ug/L

	Units:	10.000	***************************************	Chiest.	ogyr .
		Det Limits	Compound Name		Det Limit
Aceneph thene	NO	2 1	2,4-0initrophenol	NO	3
Acenaphthylene	MD	2	2,4-Dinitrotoluene	NO	
Inthracene	NO	2	2,6-Dinitrotoluene	ND	
lenzidine	NO	20	4,6-Dinitro-2-Methylphenol	ND	
Benzoic Acid	ND	10	Di-n-Butylphthalate	MD	
Benzo(a)Anthracene	ND	8	Di-n-Octyl Phthalate	NO	
lenzo(a)Pyrene	MD	8	Fluoranthene	ND	
Benzo(b)Fluoranthene	ND	8	Fluorene	NO	
Benzo(g,h,i)Perylane	ND	8	Hexachtorobenzene	MD	
Benzo(k)Fluoranthene	160	8	Hexachlorobutadiene	ND	
Benzyl Alcohol	NO	4 1	Hexachlorocyclopentadiene	ND	
ois(2-Chloroethoxy)Methane	ND	2	Hexachloroethane	ND	
ois(2-Chloroethyl) Ether	MD	2	Indeno(1,2,3-cd) Pyrene	ND	
ois(2-chloroisopropyl)Ether	ND	2	Isophorone	ND	
ofs-(2-Ethylhexyl)Phthalate	ND	4 1	2-Methylnaphthalene	MD	
-Bromophenylphenyl Ether	ND	8	2-Methylphenol	NO	
Sutylbenzylphthalate	MD	4 [4-Methylphenol	ND	
arbazole	MD	10	Naphthalene	NO	
-Chloroeniline	NO	4 1	2-Witrosniline	MD	
2-Chloronaphthalene	MD	2	3-Witroaniline	NO	
2-Chlorophenol	NO	4 1	4-Witrosniline	ND	
6-Chlorophenylphenyl Ether	ND	8	Nitrobenzene	NO	
-Chloro-3-Methylphenol	NO	8	2-Witrophenol	ND	
thrysene	NO	8	4-Witrophenol	ND	
ibenzofuran	HD	2	N-Nitrosodiphenylamine	MD	
ibenzo(a,h)Anthracene	ND	8	N-Witroso-Di-n-Propylamine	NO	
1,2-Dichlorobenzene	ND	3	Pentachlorophenol	NO	
,3-Dichlorobenzene	HD	3 [Phenanthrene	NO	
1,4-Dichlorobenzene	NO	3	Phenol	NO	
3,3'-Dichtorobenzidine	ND	10	Pyrene	ND	
2,4-Dichlorophenol	MD	6	1,2,4-Trichlorobenzene	ND	
Diethylphthalate		2	2,4,5-Trichlorophenol		
2,4-Dimethylphenol		6	2,4,6-Trichlorophenol		
ImethylPhthalate	NO	2	,	9	

^(*) ND = Not detected above the listed detection limit.

Analyst Notes: ____

^(*) ND = Not detected above the listed detection limit.

PAGE 2 OF 6

Attachment: 3

GREARIC AMALYSIS DATA 6E-HL Sample NO:3TFAD440-03

Date Reported: 06-Aug-93

Analyst: M. HUMPHREY

Notrix: WATER

TENTATIVELY IDENTIFIED SENE-VOLATILE COMPOUNDS BY METHOD 625

	1		Estimeted
RT (min)	CAS #	COMPOUND NAME (*)	Concentration (**
	!	No ABN TIC's detected in this sample.	

		[

(*) AMALYSTS NOTE: The compounds listed are tentatively identified by the best match with the NIN/EPA/Wiley mass spectral data base or by marked interpretation. Standards were not available for confirmation or quantitation.

(**) Estimated concentration is based on a Response Factor of 1.0 to the nearest internal standard.

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Attachment: 3

ORGANIC ANALYSIS DATA

6E-HL SAMPLE NO: 3TFADW40-03

DATE REPORTED: 10-Aug-93

ANALYST: F. Edward O'Neill

SAMPLE TYPE: water

VOLATILE COMPOUNDS BY METHOD 624 units: ug/L

CAS#	Compound Name	Pagultes	Det Limits
*******		Meserca.	Dec Prute:
67-64-1	acetone	ND	!
107-02-8	acrolein	ND	100
107-13-1	acrylonitrile	ND	100
71-43-2	benzene	ND	
75-27-4	bromodichloromethane	ND	
75-25-2	bromoform	ND	
74-83-9	bromomethane	ND	
78-93-3	2-butanone	ND	
75-15-0	carbon disulfide	ND	
56-23-5	carbon tetrachloride	ND	
108-90-7	chlorobenzene	ND	
75-00-3	chloroethane	ND	
67-66-3	chloroform	ND	
74-87-3	chloromethane	ND	
124-48-1	dibromochloromethane	ND	
75-34-3	1,1-dichloroethane	ND	
107-06-2	1,2-dichloroethane	ND	
75-35-4	1,1-dichloroethene	ND	
156-59-2	C1s-1, 2-dichloroethene	ND	
156-60-5	trans-1,2-dichloroethene	ND	
78-87-5	1,2-dichloropropane	ND	
10061-01-5	cis-1,3-dichloropropene	ND	1
10061-02-6	trans-1,3-dichloropropene	ND	
100-41-4	ethylbenzene	ND	
519-78-6	2-hexanone	ND	
75-09-2	methylene chloride	ND	
108-10-1	4-methyl-2-pentanone	ND	
100-42-5	styrene	ND	
79-34-5	1,1,2,2-tetrachloroethane		
127-18-4	tetrachloroethene	ND ND	
108-88-3	toluene		
71-55-6	1,1,1-trichloroethane	ND	
79-00-5	1,1,2-trichloroethane	ND	
79-01-6	trichloroetheme	ND	2
75-01-4	vinyl chloride	ND	. 2
108-38-3	me and/or (Chef 106-12-2)	ND	
95-47-6	m- and/or (CAS# 106-42-2)p-xylene	ND	5
20 41-0	o-xylene	ND	

^(*) ND = Not detected above the listed detection limit.

PAGE 4 OF 6 Attachment: 3

ORGANIC ANALYSIS DATA

6E-HL SAMPLE NO: 3TFADW40-03

DATE REPORTED: 10-Aug-93

ANALYST: F. Edward O'Neill

SAMPLE TYPE: water

TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS BY METHOD 624

(min) RT	CAS#	COMPOUND NAME *	ug/L EST. CONC
1		No VOA TIC's detected in this sample.	1
!		<u> </u>	<u> </u>
i		1	- i
I			I
I			1
			1
		1	
<u>:</u>			
1			1 .

^{*} ANALYSTS NOTE - THE COMPOUNDS LISTED ARE TENTATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.

^{**}Estimated concentration is based on a RF of 1.0 to internal standard

PAGE 5 OF 6

PESTICIDE/PCB ANALYSIS

6ES-HL SAMPLE NO.: 3TFADW40-03 DATE REPORTED: 8 / 6/1993

SAMPLE TYPE: WATER MILES ROAD LANDFILL

ANALYST: LARRY STRECK

CAS# 319-84-6	aloha Pur	U	G/L (PPB)	-
319-85-7	alpha-BHC	ND	DL=	0.05	
319-86-8	beta-BHC	ND	DL=K	0.05	
58-89-9	delta-BHC	ND	DLac	0.05	
76-44-8	gamma-BHC (Lindane)	ND	DL= C	0.05	
	Heptachlor		DL= C	0.05	
309-00-2	Aldrin		DL=	0.05	
1024-37-3	Heptachlor epoxide	200	DL=	0.05	
959-98-8	Endosulfan I				
60-57-1	Dieldrin	14.00,000	DL=<	0.05	
72-55-9	4,4'-DDE		DL= <	0.10	
72-20-8	Endrin		DL=<	0.10	
33213-05-9	Endosulfan II		0.0	0.1	
72-54-8	4.4'-000			0.10	
7421-37	4,4'-DDD		DL=4		
53494-11-8	Endrin s. Tyms	NID	DLac	0.10	
-0737-3.	2nd in we are	140	01-4	2.10	
83-29-8	Endosulfan sulfate	ND	01=1	0.10	
71.25.6	4,4'-207		DLac	0.10	
9107-11	19172 2-7121	MD	DL=c	0.50	
#1851-2-a	Alpha-Crisrashs	ND	DL-	0.05	
1111-17-2	gamma-Chlordane		21-	0.05	
12674-11-2	Toxaphana		DL=		
11104-28-2	Hracion. Is		_	1.00	
	Aracier-1221			2.00	
11141-16-5	Aroclor-1232		200		
53469-21-9	Araclar-1242			1.00	
12672-29-6	Aroclor-1248			1.00	
11097-69-1	Arocler-1254			1.00	
11000-32-5	Angsign - 1260			1.00	
		NO	DL=4	1.00	

NO DL - NOT DETECTED, DETECTION LIMIT

PAGE 6 OF 6 ATTACHMENTS 3

US EPA HOUSTON BRANCH

SAMPLE #: 3TFADW40-03 DATE
SOURCE: MILES ROAD LANDFILL RECEIVED: 13-Jul-93
TYPE: AQUEOUS DATE
ANALYSTS: RC, LC, JL REPORTED: 12-Aug-93

PARAMETER	COVOTIMENTAL	DETECTION	
PARAMETER	CONCENTRATION	LIMIT <=	UNITS
ALUMINUM	ND	100	UG/L
ANTIMONY	ND	60	UG/L
ARSENIC	ND	5.8	UG/L
BARIUM	ND	10	UG/L
BERYLLIUM	ND	5	UG/L
CADMIUM	ND	5	UG/L
CALCIUM	ND	150	UG/L
CHROMIUM	ND	10	UG/L
COBALT	ND	20	UG/L
COPPER	ND	20	UG/L
IRON	ND	25	UG/L
LEAD	ND	3.3	UG/L
MAGNESIUM	ND	150	UG/L
MANGANESE	ND	5	UG/L
MERCURY	ND	0.2	UG/L
NICKEL	ND	20	UG/L
POTASSIUM	ND	1000	UG/L
SELENIUM	ND	5.8	UG/L
SILVER	ND	10	UG/L
SODIUM	ND	500	UG/L
CHALLIUM	ND	10	UG/L
VANADIUM	ND	30	UG/L
ZINC	ND	20	UG/L
CYANIDE	ND	0.02	MG/L

ND: LESS THAN DETECTION LIMIT



U.S. Environmental Protection Agency Housson Branch Management System Report for Sample Number 3TFADW4004

August	12.	1993
		40.52

Source:	MILES ROAD LANDFILL		
Site Description:	STA #16(b) (6) WELL		
Date/Time Received:	7/13/93 10:00	Date/Time Collected:	7/12/93 16:30
Sample Type:	DW	Date Completed;	8/12/93
Comments:			

Parameter	Description	Section	Status	Report Date
ABN	ACID/BASE NEUTRALS	ORGANIC	COMPLETE	8/12/93
CN	CYANIDE	INORGANIC	COMPLETE	8/12/93
HSL	HAZARDOUS SUBSTANCE LIST	METALS	COMPLETE	8/12/93
PCB	POLYCHLORINATED BIPHENYLS	ORGANIC	COMPLETE	8/12/93
PES	PESTICIDES	ORGANIC	COMPLETE	8/12/93
VOA	VOLATILE ORGANIC ANALYSIS	ORGANIC	COMPLETE	8/12/93
-				
-				
				<u> </u>

1

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Attachment: 4

ORFANIC ANALYSIS DATA

6E-HL Sample NO: 3TFADW40-0

Date Reported:

06-Aug-93

Analyst: M. HEMPHREY

Sample Type:

WATER

SEMI-VOLATILE COMPOUNDS BY METHOD 625

units: ug/L

units: ug/L

The state of the s		Det Limits	Compound Name	L. State Co.	Det Limit

Acenaphthene	NO	2	2,4-Dinitrophenol	ND	3
Acenaphthylene	MD	2	2,4-Dinitrotoluene	ND	
Anthracene	ND	2	2,6-Dinitrotoluene	NO	
Benzidine	ND	20	4,6-Dinitro-Z-Methylphenol	ND	
Benzoic Acid	ND	10	Di-n-Butylphthalate	ND	
lenzo(a)Anthracene	MD	8	Di-n-Octyl Phthalate	NO	
lenzo(a)Pyrene	NO	8	Fluoranthene	NO	
Benzo(b)Fluoranthene	NO	8	Fluorene	MD	
lenzo(g,h,i)Perylene	ND	8	Hexachlorobenzene	ND	
Menzo(k)Fluoranthene	ND	8	Hexachlorobutadiene	NO	
Menzyl Alcohol	ND	4 1	Mexachlorocyclopentadiene	MO	
is(2-Chloroethoxy)Hethane	NO	2	Hexach(oroethane	ND	
ois(2-Chloroethyl) Ether	NO	2	Indeno(1,2,3-cd) Pyrene	NO	
is(2-chloroisopropyl)Ether	ND	2	Isophorone	NO	
is-(2-Ethylhexyl)Phthalate	NO	4 1	2-Methylnaphthalene	NO	
-Bromophenylphenyl Ether	NO	8	2-Methylphenol	ND	
utylbenzylphthalate	HD	4 1	4-Methylphenol	NO	
Carbazole	NO	10	Naphthalene	ND	
-Chloroaniline	NO	4 1	2-Mitroaniline	ND	
-Chloronaphthalene	MD	2	3-Hitroaniline	ND	
-Chlorophenol	NO	4	4-Witroaniline	NO	
-Chlorophenylphenyl Ether	NO	8	Nitrobenzene	NO	
-Chloro-3-Methylphenol	ND	8	2-Witrophenol	NO	
hrysene	MD	8 [4-Mitrophenol	NO	
ibenzofuran	MD	2	N-Witrosodiphenylamine	ND	
ibenzo(a,h)Anthracene	ND	8	N-Witroso-Di-n-Propylamine	NO	
,2-Dichlorobenzene	MD	3	Pentachlorophenol	MD	
,3-Dichlorobenzene	NO	3	Phenanthrene	MD	
,4-Dichlorobenzene	ND	3	Phenol	MD	
,3'-Dichlorobenzidine	ND	10 I	Pyrene		
2,4-Dichlorophenol	NO	6 1	1,2,4-Trichlorobenzene		
lethylphthalate	ND	2 1	2,4,5-Trichlorophenol		
2,4-Dimethylphenol	MD	6 1	2,6,6-Trichtarophenot	ND	
DimethylPhthalate	NO	2 1	7.		

(*) NO = Not detected above the listed detection limit.

(*) ND = Not detected above the listed detection limit.

Analyst Notes:

PAGE 2 OF 6

Attachment: 4

6E-HL Sample NO:3TFADW40-04

ORGANIC AMALYSIS DATA

Date Reported: 04-4-m-03

Analyst: 1

H. HAPHREY

Matrix: WATER

TENTATIVELY IDENTIFIED SENI-VOLATILE COMPOUNDS BY METHOD 625

units: ug/L

RT (min)	CAS #	COMPOUND NAME (*)	Estimated Concentration (**)
12.6		UNCHAN	8
		••••••	

	••••••	***************************************	

	*************	***************************************	

(*) AMALTSTS NOTE: The compounds listed are tentatively identified by the best match with the NIM/EPA/Wiley mass spectral data base or by manual interpretation. Standards were not available for confirmation or quantitation.

(**) Estimated concentration is based on a Response Factor of 1.0 to the nearest internal standard.

ORGANIC ANALYSIS DATA

6E-HL SAMPLE NO: 3TFADW40-04 DATE REPORTED: 10-Aug-93

ANALYST: F. Edward O'Neill

SAMPLE TYPE: water

VOLATILE COMPOUNDS BY METHOD 624 units: ug/L

CAS#	Compound Name	Results*	Det	Limits
67-64-1	acetone	ND		5
107-02-8	acrolein	ND		100
107-13-1	acrylonitrile	ND		100
71-43-2	benzene	ND		2
75-27-4	bromodichloromethane	ND		2
75-25-2	bromoform	ND		2
74-83-9	bromomethane	ND		
78-93-3	2-butanone	ND		
75-15-0	carbon disulfide	ND		
56-23-5	carbon tetrachloride	ND		
108-90-7	chlorobenzene	ND		2
75-00-3	chloroethane	ND		
67-66-3	chloroform	ND		2
74-87-3	chloromethane	ND		
124-48-1	dibromochloromethane	ND		
75-34-3	1,1-dichloroethane	ND		
107-06-2	1,2-dichloroethane	ND		
75-35-4	1,1-dichloroethene	ND		:
156-59-2	cis-1,2-dichloroethene	ND		
156-60-5	trans-1,2-dichloroethene	ND		:
78-87-5	1,2-dichloropropane	ND		
10061-01-5	cis-1,3-dichloropropene	ND		
10061-02-6	trans-1,3-dichloropropene	ND		
100-41-4	ethylbenzene	ND		
519-78-6	2-hexanone	ND		
75-09-2	methylene chloride	ND		
108-10-1	4-methyl-2-pentanone	ND		
100-42-5	styrene	ND		
79-34-5	1,1,2,2-tetrachloroethane	ND		1
127-18-4	tetrachloroethene	ND		1
108-88-3	toluene	ND		
71-55-6	1,1,1-trichloroethane	ND		1
79-00-5	1,1,2-trichloroethane	ND		
79-01-6	trichloroethene	4ND		
75-01-4	vinyl chloride	ND		
108-38-3	m- and/or (CAS# 106-42-3)p-xylene	ND		
95-47-6	o-kylene	ND		

^(*) ND = Not detected above the listed detection limit.

PAGE 4 OF 6 Attachment: 4

ORGANIC ANALYSIS DATA

6E-HL SAMPLE NO: 3TFADW40-04

DATE REPORTED: 10-Aug-93

ANALYST: F. Edward O'Neill

SAMPLE TYPE: water

TENTATIVELY IDENTIFIED VOLATILE COMPOUNDS BY METHOD 624

(min) RT	CAS#	COMPOUND NAME *	ug/L EST. CONC
<u> </u>		No VOA TIC's detected in this sample.	<u> </u>
<u> </u>			<u> </u>
1			
1		<u> </u>	
i			<u> </u>
<u> </u>			
<u> </u>			<u> </u>
<u> </u>			1
1			1

^{*} ANALYSTS NOTE - THE COMPOUNDS LISTED ARE TENTATIVELY IDENTIFIED BY THE BEST MATCH WITH THE NIH/EPA/WILEY MASS SPECTRAL DATA BASE OR BY MANUAL INTERPRETATION. STANDARDS WERE NOT AVAILABLE FOR CONFIRMATION OR QUANTITATION.

^{**}Estimated concentration is based on a RF of 1.0 to internal standard

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PESTICIDE/PCB ANALYSIS

6ES-HL SAMPLE NO.: 3TFADW40-04 DATE REPORTED: 8 / 6/1993

SAMPLE TYPE: WATER MILES ROAD LANDFILL

ANALYST: LARRY STRECK

CAS#					۰
319-84-6	aipna-BHC		G.L (
319-85-7	beta-BHC		DL= <		
319-86-8	dalta-Duc	ND	DL=	0.05	
58-89-9	delta-BHC	ND	DL=	0.05	
76-44-8	gamma-BHC (Lindane)	ND	DL= c	0.05	
309-00-2	Heptachlor	ND	DL=	0.05	
1024-57-3	Aldrin	ND	DL=	0.05	
959-98-8	Heptachlor epoxide	NE	DL.	2 3#	
	Endosulfan I		5	0.05	
60-57-1	Dieigrin	1,0		(74.7) (7.0)	
72-55-9	4,4 -005	100		0.13	
72-20-8	enc :	ND	DL	0.10	
77013-67-	Endosulfan !!		2-4	0.13	
713	4,4'-000		01.	0,10	
7421-97-4	Engris 44440) as		DITA	3.10	
53494-70-6	There have a		SLAT	0.10	
1031-07-3	Enanth katana		0_+	3.10	
90-2:.7	Encosulfan sulface	NO	21_*	0.10	
77 - 7	-,-'-:07		-		
9107.71.4	19162 20168	*	-	5.6	
5103-71-3	alanar intereser	813	2	0.27	
8601471.3	The state of the s		5.4	0.0=	
1-371-1	M 25 128 + 1015		0	:	
111011-1	Heapter-1221		0_=	2 00	
111+1-16-0	Araglar-1232		OL+	2.00	
F3402-11-3	Aratic -10		D.T.A.	1.00	
14072-17-5	Argelor-1243	140		**	
.1097-67-1	Araslan-128		- "	1.01	
11095-31 7	4111	ND	-	1.00	
		HD I	0_7	1.00	

NO DE * 507 DE'L. .. LE EL .01 CIMIT

PAGE 6 OF 6 ATTACHMENTS 4

US EPA HOUSTON BRANCH

SAMPLE #: 3TFADW40-04 DATE
SOURCE: MILES ROAD LANDFILL RECEIVED: 13-Jul-93
TYPE: AQUEOUS DATE
ANALYSTS: RC, LC, JL REPORTED: 12-Aug-93

PARAMETER	CONCENTRATION	DETECTION LIMIT <=	UNITS
ALUMINUM	132	100	HC /T
ANTIMONY	ND	60	UG/L
ARSENIC	ND	5.8	UG/L
BARIUM	134	10	UG/L
BERYLLIUM	ND	5	UG/L
CADMIUM	ND	5	UG/L
CALCIUM	49600	150	UG/L
CHROMIUM	ND	10	UG/L
COBALT	ND	20	UG/L
COPPER	ND	20	UG/L
IRON	89	25	UG/L
LEAD	ND	3.3	UG/L
MAGNESIUM	5190	150	UG/L
LANGANESE	ND	5	UG/L
ERCURY	ND	0.2	UG/L
ICKEL	ND	20	UG/L
POTASSIUM	ND	1000	UG/L
ELENIUM	ND	5.8	UG/L
SILVER	ND	10	UG/L
ODIUM	65500	500	UG/L
HALLIUM	ND	10	UG/L
ANADIUM	ND	30	UG/L
INC	ND	20	UG/L
	ND	20	UG/L
YANIDE	ND	0.02	MG/L

ND: LESS THAN DETECTION LIMIT

ATTACHMENT 6
BACKGROUND SOIL SAMPLE DATA VALIDATION FOR THE CASTLE DRIVE AND MILES ROAD LANDFILL

HARDSONIZONALISE P

DATA QUALITY ASSURANCE REVIEW

Site Name: Site Code: Case Number: Castle Miles Landfill

TXD980750368 20267

Laboratory:

American Analytical - Broken Arrow, OK

Soil Samples:

MFAP79, MFAP80, MFAP81, MFAP82, MFAP83, MFAP84, MFAP85, MFAP86, MFAP87, MFAP81D

The data package consists of 12 soil samples analyzed for TCL metals and cyanide. One sample was a duplicate.

- Analytical Parameters: All samples were analyzed using low concentration samples.
- Holding Times: All sample proparation and analysis were conducted within holding time limits.
- 3. <u>Calibration Verification</u>: There is no indication that the cyanide standard was distilled. All cyanide data is flagged as (J). All initial calibration verification results were within control limits. All continuing calibration verifications were conducted at the proper frequency and the results were within control limits.
- 4. Blanks: All blanks were at the IDL except copper and silver

The blank concentrations for copper were generally above the IDL. The highest value was 4.8 mg/l. All sample analyte concentrations were less than five times this concentration and, therefore, were flagged (B).

The blank concentration for silver was above the IDL, but did not affect the results since all sample concentrations were below the IDL.

5. <u>Matrix Spike Recovery:</u> The spike recovery (%R) was miscalculated for cyanide, mercury, and manganese. Corrections should be as follows:

ELEMENT/IONIC SPECIES	%R LISTED VALUE	TRUE VALUE
Hg	110.0	90.0
Mn	-363.5	-363.4
Cn	101.4	91.4

Spike recovery for barium and vanadium exceeded quality control limits. Analyte concentrations of these two elements are flagged (J).

All other matrix spikes were within quality control limits.

<u>Duplicates:</u> The relative percent difference for aluminum, iron, and manganese exceed the quality control limit of 35%. As such, analyte concentrations of these elements are flagged 6. (J).

The relative percent difference for all other elements meet the quality control criteria.

- Laboratory Control Samples: Quality control criteria were met in all samples.
- ICP Interference Check Sample (ICS): ICP interference check samples were analyzed at the specified frequency and the results were within control limits.
- ICP Serial Dilution: Quality control criteria were met in all 9. samples.
- 10. Furnace AA: Furnace Atomic Absorption Raw Data was not part of this validation package.
- <u>Sample Result Verification:</u> Data package had no missing or incorrectly numbered pages.
- 12. Overall Assessment of Data: The data package is acceptable except for the following:
 - Blank interference with copper analyte.
 - Failure to dilute the mid-range cyanide standard. b.
 - Duplicate relative difference for aluminum, iron and C.
 - manganese being beyond control limits.
 Matrix Spike Recovery for barium and vanadium being d. beyond control limits.

Bits Name and Code: Castle Miles Landill,TXD980750368
Cass Number: 20287
Concentrations in milligrams/kilogram (mg/kg)
Compiled by; Fluor Daniel.inc.

	Tra	Mc Number			MFAP87	-	MFAP88	or commercial districts	MFAP89	and the same	MFAP81D	-	Total Control of the last	-	-
		Matrix			SOIL		SOIL		BOIL	_	BOIL	_		-	-
	Pe				73.5		80.2		82.1	_	79.4	-		-	-
		Location:	SS-08		55-09		SS-10		SS-11		55-03			-	-
	NAME CAS NO. CLA 7429-90-5 7440-36-0 7440-38-2 NAME CAS NO. CLA 7440-38-3 NAME CAS NO. CLA 7440-38-3 NAME CAS NO. CLA 7440-43-9 NAME CAS NO. NAME 7440-43-9 NAME CAS NO. NAME 7440-43-9 NAME 7440-50-8 NAME 7440-60-7 NAME 7440-60-7 NAME 7440-60-7 NAME 7440-62-4 NAME 7440-62-5 NAME 7440-62-5 NAME 7440-62-5 NAME 7440-62-6 N	and or		1000							-			-	
		Sample Description:					BACKGROUND		BACKGROUND		DUPLICATE				-
COMPOUND NAME	CAS NO.	CLASS	Concentratio	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration
ALUMINUM	7429-90-5	INO	33,900.00	+	38 600 00	-		_	-	_	-				
ANTIMONY		INO	33,900.00	1	130,000.00	7	28,500.00	4	36,800.00	h	14,794.81	U		-	-
ARSENIC			4.30	+	4.80	-	19.00	U	19.00	U					
BARIUM			200.00	1	321.00		3.00	U	3.40		4.30				
BERYLUUM		INO	1.00	U	1 30	٧.	203.00	۲.	302.00	٧	221.82	2		3	
CADMIUM		INO	1.00	1	1.30	-	2.00	U	1.20	-	1.00	U			
CALCIUM		INO	90,600,00	1	30.400		5.740.00	U	2.00	U				1	
CHROMIUM			28.20	-	32.60	-	21.90	-	5,140.00	-	56,755.62				
COBALT			7.80	-	17.90			-	29.00		13.37				
COPPER			10.90	b	13.30	-	9.90	U	14.20		6.81			. 1	
RON			18.100.00	1	21.700.00		15,700.00	8	11.30	В	14.42	В			
LEAD			16.00	ř	23.60	-	14.30	,	19,400.00	J	11,539.74	7			
MAGNESIUM	7439-95-4		4.440.00		4.890.00	-	2 470 00	-	21.80	-	20.07				
MANGANESE			736.00	1	1,670.00		187.00		2,950.00		2,228.06				
MERCURY		INO	700.00	ř-	1,070.00	-		U	710.00	,	550.19	7			
NCKEL	7440-02-0		21.00	U	26.40	-			0.20	U					
POTASSIUM			2.640.00	-	2.970.00	-	1.140.00	U	1.770.00	U		U			
ELENIUM		INO	2,010.00		8,870.00	-		U			1,202.54				
HLVER		INO T								U					
ODIUM			255.00	-	183.00		284.00			U	-				
HALLIUM			200.00		100.00	-			273.00		361.59				
ANADIUM			57.00	1	56.60		30.50			U					
INC			46.8		54.00		36.00		50.30 43.00		32 49	9			
YANIDE			10.00				THE REAL PROPERTY AND ADDRESS OF THE PERTY ADDRE				10.00				

- LEGEND
 IND horganic
 B- Blank interference Analyte conc. < 5x blank conc.
 J The associated value is an estimated quantity.
 R Date for analyte is unusable.
 U The material was analyzed for but was not detected above the level of the associated value.
 UJ The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

B:(CASTLEMLWK3

ORGANIC DATA VALIDATION

Case No.: 20267

Laboratory: ARI SDG#: FAA59

Site: Castle Miles Landfill No. of Samples: 19

Matrix: Soil and Water

Soil Samples: FA-A63, FA-A64, FA-A65, FA-A66, FA-A67, FA-A68, FA-A69, FA-A70, FA-A71, FA-A72, FA-A73

Water Samples: FA-A59, FA-A60, FA-A74, FA-A75, FA-A76, FA-A77,

FA-A78, FA-A79

Comments: Eleven soil samples and eight water samples from the Castle Miles Landfill were analyzed. Anticipated concentrations were low. Samples were not analyzed within the allowable holding times. VOA, BNA, and pesticides data are provisional. Problems were encountered in the calibration of VOAs and BNAs and the pesticide analysis sequence was not acceptable because a standard was not analyzed after every fifth sample. All detectable concentrations are qualified as estimates.

Holding Times

VOA:

The solid samples met EPA QA/QC criteria but the water samples exceeded the allowed holding times. Reported VOA values in water samples were qualified as estimates.

BNA:

The water samples met the EPA QA/QC criteria but the extraction holding times were exceeded for all soil samples.

Pest/PCB:

The water samples met the EPA QA/QC criteria but the extraction holding times were exceeded for all soil samples. Reported Pest/PCB values in soil samples were qualified as estimates.

2. Tuning/Performance

VOA:

Meets EPA QA/QC criteria.

BNA:

Meets EPA QA/QC criteria.

Pest/PCB:

The Analysis Sequence did not meet EPA QA/QC criteria.

Calibrations

VOA:

\$D for chloromethane, bromoform, and acetone
all exceeded EPA QA/QC criterion of 25%.

BNA: tD for 2,4-Dinitrophenol exceeded EPA QA/QC criterion of 25%. Internal standards for samples FA-A63, FA-A64, FA-A69, FA-A70, FA-A71 and FA-A72 did not meet area requirements. Samples were rerun and internal standards were

outside area specifications again.

Pest/PCB: *RSD for Linearity Check Compounds failed EPA QA/QC criterion of 10%. *D for standards failed EPA QA/QC criterion of 15% for quantative columns. *D for standards failed EPA QA/QC criterion of 20% for confirmatory

columns.

Blanks

VOA: Meets EPA QA/QC criteria.

BNA: Meets EPA QA/QC criteria.

Pest/PCB: Meets EPA QA/QC criteria.

System Monitoring Compounds (SMCs)/Surrogates

Meets EPA QA/QC criteria. VOA:

BNA: Meets EPA QA/QC criteria.

Pest/PCB: Surrogate recoveries were not acceptable for samples FA-A59, FA-A76MS, and FA-A76MSD.

Matrix Spike/Matrix Spike Duplicates

VOA: Meets BPA QA/QC criteria.

BNA: MS and MSDs were out of compliance because reported values exceeded allowable ranges for recovery. Recovery of 4-Nitrophenol, Pentachlorophenol, 1,4-Dichlorobenzene, and

1,2,4-Trichlorobenzene did not meet standards.

Pest/PCB: Meets EPA QA/QC criteria.

7a. Compound Identity/Quantitation

VOA: Meets BPA QA/QC criteria.

BNA: Meets EPA QA/QC criteria.

Pest/PCB: Meets EPA QA/QC criteria.

7b. Data Completeness

VOA: Meets EPA QA/QC criteria.

BNA: Meets EPA QA/QC criteria.

Data package provided did not correspond to the requirements of the EPA data validation Pest/PCB:

procedures.

Case Assessment

Water samples were not analyzed within the allowed holding times. Calibrations of several VOA parameters were out of compliance. VOA:

Data are provisional.

Calibrations of a few SVOA parameters were out of compliance. Soil sample extracts were not analyzed within the allowed holding time. BNA:

Data are provisional.

Calibrations of a few Pesticide/PCB parameters were out of compliance. The analytical sequence was not correct. Soil sample extracts were not analyzed within the allowed holding time. Data are provisional Pest/PCB:

holding time. Data are provisional.

	Percent Moi Lo S Descri		20 96-06		19 98-07		22 95-08		26 56-09		The state of the s		19 SS-11 Background Sample	- 1	GW-12	
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration C	9	Concentration	C
Chioromathane	74-87-3	ASSESSMENT OF REAL PROPERTY.									12	U	12 U	1		
Bromomethane	74-83-9										12		12 U			
Vinyl Chloride	75-01-4	VOA	12	U	12	U	13	U	14	U	12		12 U		10	U
	75-00-3		-	1							12		12 U			
Chloroethane	75-09-2			-							12		12 U			
Methylene Chloride	67-64-1			-							12		12 U			
Acetone	75-15-0		-		-						12		12 U			-
Carbon Disuitide	75-35-4	VOA		1							12		12 0			
1,1 - Dichiorpethene	75-34-3		12	U	12	U	13	U	14		12		15 N		10	
1,1 - Dichloroethane	540-59-0			Ü		Ü	13	U	14	U	12		12 U		10	U
1,2-Dichloroethene (total)	67-66-3		- '-	1	1	1					12	U	12 U	1		
Chloroform	107-06-2		-	1	_						12		12 U			
1,2-Dichloroethane	78-93-3			+	-						12		12 U	1		
2-Butanone	71-55-6	VOA	-	+							12		12 U	1		
1,1,1 - Trichloroethane	56-23-5		-	1							12		12 U			
Carbon tetrachloride	75-27-4		-	-	-	-					12		12 U	1		
Scomodichioromethane	78-87-5		-	+							12		12 0			
1,2 - Dichloropropane	10061-01-5		-	+	_	1					12		12 0	2		-
cis - 1,3 - Dichloropropens			10	U	12	U	13	U	14	U	12		12 4		10	U
Trichioroethene	79-01-6		16	1	-	1				Т	12		12 1			
Dibromochioromethane	124-48-1		-	+	-	+	-	1		1		U	12 4	1		
1,1,2 - Trichloroethane	79-00-5		-	+	-	+-	-	1		1		υ	12 1	1		
Benzene	71-43-2		-	+	-	+	-	+	1	T		U	12 1	J		
Trans - 1,3 - Dichloropropene	10061-02-6		-	+	-	+	-	1	1			U	12 1			
Bromoform	75-25-2		-	+	-	+	-	1		1	12	U	12 1	1		
4 - Methyl - 2 - Pentanone	108-10-1		-	+	-	+		+	-	1		U	12 1			
2-Hexanone	591-78-6		-	+	-	+	1	+			12	U	12 1			
Tetrachioroethene	127-18-4		-	+	-	+	-	+	1	1	12	Ü	12 1	J		
1,1,2,2 - Tetrachioroethane	79-34-5		-	+	-	+	1	1		1		U				
Toluene	108-88-3		-	+	-	+	-	1		T	12	U	12 1	U		
Chiarak serang	108-90-7	NOA	1		1	1		-		-	100	177	1 1011	40.		1

Totlanes

108 - 90 - 7 VOA

Ethytbenzene

109 - 90 - 7 VOA

Ethytbenzene

100 - 41 - 4 VOA

Syrene

100 - 42 - 5 VOA

1330 - 20 - 7 VOA

1330 - 20 - 7 VOA

Ethytbenzene

100 - 42 - 5 VOA

1330 - 20 - 7 VOA

1330 - 20 - 7 VOA

2 The material was analyzed for, but was not detected. The associated numerical value is the sample quantifiation limit.

3 - The associated numerical value is an estimated quantity.

3 - The associated numerical value is an estimated quantity.

N- Presumptite ediction of presence of the material at an estimated quantity.

UJ - The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

UJ - The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

BINOABLK

Site Name and Code: Castle Miles LF TXD 980750368 Case Number: 20207 Concentrations in micrograms/kilogram (ug/kg) or ug/l.

Compiled by: Fluor Daniel, Inc.	Traff	c Number	FA-A68		FA-A69	FA-A70		FA-A71	FA-A72	-	FA-A73	FA-A74	
		Matrix	SOIL		SOIL	SOIL		SOIL	SOIL		SOIL	WATER	
	Percer	t Moisture:	20		19	72		26	20	-	19		
		Location and/or Sample lescription	\$\$-06		\$8-07	55-08		\$\$-09	SS-10 Background Sa	mple	SS-11 Background Sample	GW-12	
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration C	Concentration	C	Concentration C	Concentration	C	Concentration C	Concentration	C
Phenol	108-95-2								350		330 U		
Dis(2 - Chloroethyl)Ether	111-44-4	BNA		1					350		330 U		1
2 - Chlorophenol	95-57-8	BNA							350		330 U		
1,3 - Dichlorobenzene	541-73-1	BNA					7.7		350		330 U		1
1.4 - Dichlorobenzene	106-46-7	BNA							350		330 U		
1,2 - Dichlorobenzene	95-50-1	BNA							350		330 U		
2 - Mathylphanol	95-48-7	BNA		100					350		330 U		
2.2' - Oxybis(1 - Chloropropane)	108-60-1	BNA					3		350		330 U		
4 - Methylphenol	106-44-5	BNA							350		330 U		
N - Nitroso - Di - n - Propytamine	621-64-7	BNA							350		330 U		
Hexachioroethane	67-72-1	BNA							350	U	330 U		
Nitrobenzene	98-95-3	BNA							350	U	330 U		
sophorone	78-59-1	BNA							350	U	330 U		T
2 - Nitrophenol	88-75-5	BNA							350	U	330 U		
2.4 - Dimethylphenol	105-67-9	BNA					. 6		350	U	330 U		
bis(2 - Chloroethoxy) Methane	111-91-1	BNA							350	U	330 U		
2 4 - Dichiorophenol	120-83-2	BNA							350		330 U		
1.2.4 - Trichlorobenzene	120-82-1	BNA							350		330 U		
Naphthalene	91-20-3	BNA							350	U	330 U		
4 - Chloroaniline	106-47-8	BNA							350	U	330 U		
Hexachiorobutadiene	87-68-3	BNA							350	U	330 U		T
4 - Chioro - 3 - Methylphenol	59-50-7	BNA							350	U	330 U		
2 - Methylnaphthalene	91-57-6	BNA							350		330 U		
Hexachlorocyclopentadiene	77-47-4	BNA					- 1		350	U	330 U		T
2 4.6 - Trichlorophenoi	88-06-2	BNA							350	U	330 U		T
2.4.5 - Trichtorophenol	95-95-4	BNA							860	U	810 U		T
- Chioronaphthalene	91-58-7	BNA							350	U	330 U		
2 - Nitroanlline	88-74-4	BNA							860	U	810 U		T
Dimethyl Phthalate	131-11-3								350	lu	330 U		
Acenaphthylene	208-96-8	BNA							350	U	330 U		T
2 6 - Dinitrotoluene	606-20-2								350	U	330 U		T
3 - Nitroaniline	99-09-2								860		810 U		
Acenaphtheiene	83-32-9			-					350	Tu	330 U		
FGEND		- Marie	A	-	The state of the s	the same of the same of	teroresi	NAME AND ADDRESS OF TAXABLE PARTY.	the same of the last	-	Contract and an order for balls	Access to the same	ARTON

- I COPNO

 U The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

 B Analyte was delected in the brank.

 J The associated numerical value is an estimated quantity.

 P Date for analyte suncessite (compound may or may not be present).

 N Presumptive evidence of presence of the material.

 NJ Presumptive evidence of the presence of the material at an estimated quantity.

 UJ The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

HISVOAH K

Site Name and Code: Castle Miles LF TXD 980750368 Casu Number: 20267 Concentrations in micrograms/fidiogram (ug/kg) or ug/l.

Compiled by: Fluor Daniel, Inc.	Traff	lc Number	FA-A68	-	FA-A69	FA-A70	T	FA-A71	FA-A72	-	FA-A73	-	FA-A74	_
		Matrix	SOIL		SOIL	SOIL		SOIL	SOIL		SOIL		WATER	
	Percen	t Moisture:	20		19	22		26	20		19	17-19		
		Location and/or Sample	\$\$-06		SS-07	SS-08		SS-09	SS-10		SS-11		GW-12	
	0	description:							Background Sa	imple	Background Sar	npie		
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration C	Concentration C	1	Concentration C	Concentration	C	Concentration	C	Concentration	C
2.4 - Dinitrophenol	51-28-5	BNA					T			U	810			
4 - Nitrophenol	100-02-7	BNA								U	810			
Dibenzofuran	132-64-9	BNA								U	330			
2,4 - Dinitrotoluene	121-14-2	BNA	-				Т		351	U	330	U		
Diethylphthalate	84-66-2	BNA					Т		351	U	330	U		
4 - Chlorophenyl - phenylether	7005-72-3	BNA					Т		350	U	330	U		
Fluorene	86-73-7	BNA					7		350	U	330	U		
4 - Nitroaniline	100-01-6	BNA					7		860	U	E10	U		
4.6 - Dinitro - 2 - Methylphenol	534-52-1	BNA							880	U	810	U		
N - Nitrosodiphenylamine(1)	86-30-6	BNA					7		350	U	330	V		
4 - Bromophenyl - phenylether	101-55-3	BNA					1		356	U	330	U		
Hexachlorobenzene	118-74-1	BNA					1		350	U	330	U		
Pentachioropheaol	87-86-5	BNA					7		860	U	810	U		
Phenanthrene	85-01-8						1		350	U	330	U		
Anthracene	120-12-7	BNA					7		350	U	330	U		
Carbazole	86-74-8	BNA					7		350	U	330	U		
Di - n - Bult Iphthalate	84-74-2	BNA					7		350	U	330	U		
Fluoranthene	205-44-0	BNA					7		350	U	330	U		
Pyrene	129-00-0	BNA					1		350	U	330	U		
Butylbenzylphthalate	85-68-7	BNA					-1		350	U	330	U		1 9
3.3 - Dichlorobenzidine	91-94-1	BNA					7		350	U	330	U		
Benzo(a)Anthracene	56-55-3	BNA					1		350	U	330	U		
Chrysene	218-01-9	BNA					1		350	U	330	U		
uis (2 - Ethylhexyl)Phthalate	117-81-7	BNA					1		350	U	330	U		
Di - n - Octyl Phthalate	117-84-0						1		350	U	330	U		1
Benzo(b)Fluoranthena	205-99-2						1		350	U	330	U		
denzo(k)Fluoranthene	207-08-9						+			U	330			
Benzo(a)Pyrene	50-32-8	BNA					7			U	330			
indeno(1,2,3-cd)Pyrene	193-39-5						1			U	330			
Bibenz(a,h) Anthracene	53-70-3						1			U	330			
Benzo(g,h,l)Perylana	191-24-2						1			U	330			

Site Name and Code: Castle Miles LF TXD 980750368 Case Number: 20267 Concentrations in micrograms/kilogram (ug/kg) or ug/l. Compiled by: Fluor Daniol, Inc.

Compiled by: Fluor Daniel, Inc.		Traffic Number:	FA-A58	-	FA-A69	-	FA-A70	-	FA-A71	-	FA-A72	-	FA-A73	FA-A74
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOL	1	SOL	WATER
	P	ercent Moisture:	17		19		22		27		19		18	HOUSE
	Location and/or Sample Description		59-06		\$\$-07		\$9-08		55-09	55-09		*	96-11 Background Sample	GW-12
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration C	0	Concentration C	Concentration
sipha - BHC	319-84-6	PEST/PCB						-		-	1.9 0	7	1.0 U	
peta - BHC	319-85-7	PEST/PCB									1.9 U		1.8 U	
delta - BHC	319-86-8	PEST/PCB									1.9 U		1.8 U	
gamma-BHC(Lindane)	58-89-9	PEST/PCB				- 2					1.9 U		1.8 U	
Heptachior	76-44-8	PEST/PCB		1						7	1.9 U		1.8 U	
Aldrin	309-00-2	PEST/PCB		-							1.9 U		1.8 U	
Heptachior epoxide	1024-57-3	PEST/PCB									1.9 0		1.8 U	
endosultan I	959-98-8	PEST/PCB									1.9 U		1.8 U	-
Dieldren	60-57-1	PEST/PCB									3.6 U		3.5 U	
4.4' - DDE	72-55-9	PEST/PCB								_	3.6 U		3.5 U	
Endrin	72-20-8	PEST/PCB									3.6 U		3.5 U	
Endosulfan li	33213-65-9	PEST/PCB		100		100				-	3.6 U		3.5 U	
4.4"-DDD	72-54-8	PEST/PCB	3.6	U	3.4	U	3.6	U	4.0	U	3.6 U		3.5 U	0.10
Endosultan sulfate	1031-07-8	PEST/PCB								-	3.6 U		3.5 U	0.10
4 4 - DDT	50-29-3	PEST/PCB									3.6 U		3.5 U	
Methoxyoblar	72-43-5	PEST/PCB	-	7				100		-74	19 U		18 U	
Endrin kelone	53494-70-5	PEST/PCB	5.0	J	3.4	U	3.6	U	4.0	U	3.6 U	1	3.5 U	0 10 0
Endrin aldehyde	7421-93-4	PEST/PCB									3.6 U		3.5 U	-
aipha - Chiordane	5103-71-9	PEST/PCB									1.9 U	1	1.8 U	
yamma - Chiordane	5103-74-2	PEST/PCB									1.9 U		1.8 U	
Toxaphene	8001-35-2	PEST/PCB				100					190 U		180 U	
Aroclor - 1016	12674-11-2	PEST/PCB									36 U		35 U	
Aroclor - 1221	11104-28-2	PEST/PCB									74 U		71 U	
Arocior - 1232	11141-16-5	PEST/PCB		- 7							36 U		35 U	
Arocior - 1242	53469-21-9	PEST/PCB				1		100			36 U		35 U	
Arocior - 1248	12672-29-6	PEST/PCB									36 U		35 U	
Aroclor - 1254	11097-69-1	PEST/PCB		- 3						-	36 U		25 U	
Aroclor - 1260	11096-82-5	PEST/PCB	49	J	34	U	36	U	40	υ	36 U		35 U	1.0 4

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

ii - Analyte was detected in the blank.

J - The associated numerical value is an estimated quantity. R - Date for analyte is unusable (compound may or may not be present).

N - Presumptive evidence of presence of the material.

NJ - Presumptive evidence of the presence of the material.

NJ - Presumptive evidence of the presence of the material at an estimated quantity.

UJ - The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

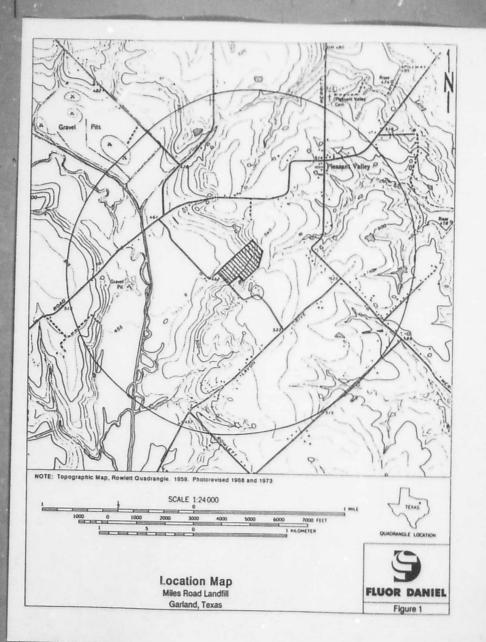
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Sit: Name and Code: Castle Miles LF To Cas: Number: 20267				CH	EMICAL DAT	A S	YRAMMU								
Constitutions in micrograms/kilogram Compiled by: Fluor Daniel, Inc.	Traf	lc Number Matrix of Moisture	FA-A88 SOIL 20		FA-ASS SOIL 19		FA-A70 SOIL 22		FA-A/H SOIL 28		FA-A72 SOIL 20		FA-A73 90%L		FA-A74 WATER
		Location and/or Sample Description	55-06		\$5-07		56-08	-	95-09		\$6-10		56-11		GW-12
COMPOUND NAME	CAS NO.	CLASS	Concuntration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concuntration
		VOC													
Unknown		TIC	87	J											
Bromofluorobenzene isomer		TIC	59	J											
Dichlorofluoromethane	75-43-4	TIC													
		BNA													
Unknown		TIC	83	J	140	1	80	J	170	J	180	J			
C6 H10 O2 Isomer		TIC			300	BJ	91	BJ					300	BJ	
Unknown		TIC	74	BJ	160	BJ	110	BJ	110	BJ	80	BJ	120	BJ	
Benzaklehyde	100-52-7	TIC													
Unknown	The same of	TIC	330	BJ	110	J	89	BJ	200	BJ	90	BJ	260	BJ	
Unknown		TIC	88	J	330	J	180	BJ	450	BJ	530	BJ	440	BJ	
Unknown HC		TIC	140	J			100	J	96	J	73	J	300	J	
Unknown HC		TIC	140	J					100	J	160	J	580	J	
Unknown		TIC	230	3	78	3	600		260		5600		220		
Unknown		TIC			84	J	2700	J	140		200	J	1600	3	
binknown		TIC			320	BJ	180	J	4400	J	270	J	310	3	
Unknown		TIC				100			110				410		
Unknown		TIC							160				250		
Unknown		TIC							330				290		
Unknow: HC		TIC	130						350		170		580	J	
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Unknown HC		TIC													
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Hexadecanoic acid	57-10-3												730		
Unknown acid		TIC											180		
Unknown	1	TIC		1									14000		
Unknown		TIC											3300		
Unknown		TIC											700		
Unknown		TIC											240		
Unknown		TIC		1 2									350	3	100 miles (100 miles (

Unknown TIC
Unknow

BYVOABLK

Reference 1
U.S. Geological Survey, 7.5 minute topographic map, Rowlett,
Tex., 1959 (photorevised 1968 and 1973).



Reference 2
Texas Department of Health, "Potential Hazardous Waste Site Identification and Preliminary Assessment", February 24, 1981.

		EXAS DEPART	MENT OF HEALT	H		
SEPA		TENTIAL HAZAR		-	6	TX09048
HOTE: This form is c jubmitted on this form and on-site inspections GENERAL INSTRUCT Assessment). File thi Agency; Site Tracking	is based on av	allable records and m	say be updated on a	ibsequent forms as	a result	
GARLANDCH			E IDENTIFICATION	TXD		
A. SITE NAME Miles Road Land	6411 6460	Ans /snsns		Pond & mile	ou of C	astle Dr., NE sid
C. CITY	till site-	, 007/30360	D. STATE	E. ZIP CODE		TY HAME OF TOR
Garland			TX	75040	100,000,000,000	llas 1/3
G. OWNER/OPERATOR (1. HAME OWNER: OPERATOR:	Vaughn Mc		Rowlett, TX		Phyere ph:	214/475-2912 214/494-7100
H. TYPE OF OWNERSHIP					-	
1. FEDERAL	Z. STATE	3 COUNTY 4	MUNICIPAL XXX	PRIVATE6	UPKHOM.	
I. SITE DESCRIPTION						
This site was u	end as the	ofty landfill	from February	v 1973 to 1	ne 1975	No liquid or
hazardous waste						
. HOW IDENTIFIED (I.e.						K. DATE IDENTIFIED
						(mo., day, & yr.)
North Central T						9/23/80
L. PRINCIPAL STATE C	DNTACT					PHONE NUMBER
L.	miller.)=				4-8-7271
JE LIGHT	11.6104	PRELIMINARY ASSE	COUENT (complete	this seeking to a	10/2/	140-1211
A. APPARENT SERIOUS			23MEN I (complete	ima section (ast)		
	Z. MEDIUM		NONEs	UNKNOWN		
B. RECOMMENDATION	CONTRACTOR OF THE PARTY OF THE			W. C.		
XX I. NO ACTION HEE			2. IMME	DIATE SITE INSPE	CTION NE	EDED
- SITE INSPECTIO	SCHEDULED F	ORI	b. wit	L SE PERFORMED	8Y.	
b. WILL BE PERP	ORMED BY:		-,	INCREATION	DED Have	
-			- 4. 317 5	INSPECTION HEES	JEO (low p	normy)
C. PREPARER INFORMA						
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Rex H. Hunt	Day H. Ho	01, 1.6.	817/	460-3032		02/24/81
		III. s	ITE INFORMATION	100000000000000000000000000000000000000		
A. SITE STATUS		.001		•		
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quantity.)						SUPERFUND
S. IS GENERATOR ON SI	TET				-	FILE
ХХ1. но	77.2	2. YES (opeci	Ify generator's low-di	gii SIC Code;		0 1 40-0
7 XXX		-				FEB 2 4 1992

D. IF APPARENT SERIOUSNESS OF SITE IS HIGH. SPECIFY COORDINATES

1. LATITUDE (deg.-mm.-eec.)

220571

960361

32°57'

C. AREA OF SITE (In ocree)

E. ARE THERE BUILDINGS ON THE SITE! XXXX 1. NO _ 2 YES (*pecify):

			V. CH	ARACTERIZATIO	MC	OF SITE ACTIV		I Coppe III Coppe				
indicate the major sit	e activity(tes) and deta	ails re	elating to each ac	tivi	ity by marking 'X'	n the ap	proprie	te boxes			
A. TRANSPOR	TER	1	8. ST	OREA	*	C. TREATE	R	. X.	0	. 01	SPOSER	
I. RAIL		I PILE	-		1	FILTRATION		KY I.	LANDFIL		-	
2. Smell		2 14454		MPOUNDMENT	12	INCINERATION		2	LANGEA	RM		
3. BARGE		3 DRUMS	1		3	VOLUME REDUCT	OH	1 2	-	240		
4. TRUCK		A TANK		VE GROUND		RECYCLING/REC	VERY	1	. SURFACE IMPOUNDMENT			
S. RIPELINE		S. TANK		OW GROUND	1	CHEM/PHYS. TRE	ATMEN				UMPING	
4. OTHER (specify):			n (spe	esty):		BIOLOGICAL TRE	THENT	-	-	ATH	0 M	
					12	. WASTE OIL REPRO	CESSIN	G 7.	UNDERG	AOL	HO HIECTION	
						SOLVENT RECOVE OTHER (apacify):	OTHER (****	ify):			
waste was disp	osed of i	n this		e. . WASTE RELATI	ED	INFORMATION						
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	-	(VV)	- 200							-		
B. WASTE CHARACTE												
	2. CORROSIN					OACTIVE S H	HGHLY	VOLATI	LE			
_ 6 TOXIC	7 REACTIVE	E	INE	RT US F	LA	MMABLE						
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Cortis and From Page 2

V. WASTE RELATED INFORMATION (continued)

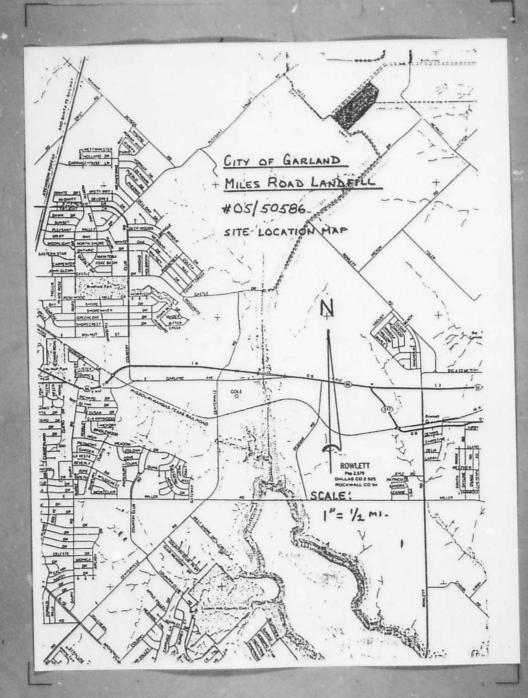
1. LIST SUBSTANCES OF GREATEST CONCERN WHICH MAY BE ON THE SITE (place in descending order of necess)

As this site accepted only municipal solid waste and as adequate access control and operational control was exercised by the city, no hazardous waste problem is anticipated.

4. ADDITIONAL COMMENTS OR HARRATIVE DESCRIPTION OF SITUATION KNOWN OR REPORTED TO EXIST AT THE SITE.

VI. HAZARD DESCRIPTION										
A. TYPE OF HAZARD	B. POTEN- TIAL HAZARD (mark 'X')	C. ALLEGED INCIDENT (mark 'X')	O. DATE OF INCIDENT (mo.,day.yr.)	E. REMARKS						
1. NO HAZARD	XXXX									
2. HUMAN HEALTH										
1. HON-WORKER										
4. WORKER INJURY										
D. CONTAMINATION OF WATER SUPPLY										
E. CONTAMINATION										
7. CONTAMINATION OF GROUND WATER										
4. CONTAMINATION OF SURFACE WATER										
. DAMAGE TO FLORA/FAUNA										
10. FISH KILL										
11. CONTAMINATION										
12. HOTICEABLE ODORS										
13. CONTAMINATION OF SOIL										
14. PROPERTY DAMAGE										
15. FIRE OR EXPLOSION										
16. SPILLS/LEAKING CONTAINERS/										
17. SEWER, STORM DRAIN PROBLEMS										
14. EPOSION PROBLEMS										
19. INADEQUATE SECURITY			1							
20. INCOMPATIBLE WASTES										
21. MIDNIGHT DUMPING										
21. OTHER (specify):										

L MPDES PERMIT 4 AIR PERMITS 7 AGRA STORER 10. OTHER (specify) 8. IN COMPLIANCES XX 1. YES	2 SPCC PLAN	NE 3. STATE PERMIT(specify) 6. RCRA TRANSPORTER	
4 AIR PERMITS 7 RCRA STORER 10. OTHER (apocity) 1. IN COMPLIANCE! 200 1. YES	2 SPCC PLAN	3. STATE PERMIT(*pp+cify) 6. PCRA TRANSPORTER 9. RCRA CISPUSER	
4 AIR PERMITS 7 RCRA STORER 10. OTHER (apocity) 1. IN COMPLIANCE! 200 1. YES	S. LOCAL PERMIT	6 PCRA TRANSPORTER 9 RCRA CISPUSER	
7 ACRA STORER 10. OTHER (specify) I. IN COMPLIANCE? 1. YES	■ 8 RCRA TREATER ■	9 RCRA CISPUSER	
10. OTHER (specify)	2 NO		
I. YES		3 UNKNOWN	STATE OF THE PARTY
I. YES		3 UNKNOWN	
XX 1. YES		3 UNKNOWN	
4 WITH RESPECT TO	(list regulation name & numbe		
A WITH RESPECT TO	(list regulation name & number		
		11	
	VIII.	PAST REGULATORY ACTIO	ons .
XX A. NONE	B. YES (summerize below	1	
	IX. INSPE	CTION ACTIVITY (pest of o	n-going)
XX A NONE	B. YES (complete items),	2.1. A. d. Antown	
AA	2 DATE OF	3 PERFORMED	
1 TYPE OF ACTIV		(EPA/State)	4. DESCRIPTION
- Company of the Comp	111111111111111111111111111111111111111	141.00	
	Y 954	EDIAL ACTIVITY (pass or	444
	A, NEM	EDIAL ACTIVITY (pear or t	or-going)
XX A. NONE	B. YES (complete items 1,	2, 3, & 4 below)	
I. TYPE OF ACTIVE	TY PAST ACTION	1. PERFORMED	4. DESCRIPTION
I. TYPE OF ACTIVI	(mo., dey, & ye.	(EPA/Siete)	A. DESCRIPTION
NOTE: Based on the	information in Sections II	I through X, fill out the i	Preliminary Assessment (Section II)
	the first page of this for	manage and account and	,
EPA Form T2070-2 (10-79)	the that page of this for	PAGE 4 OF 4	



Reference 5
Record of Telephone Conversation between Tom Casabonne,
Fluor Daniel, and Ken Smith, Landfill Director City of Garland
Sanitation Department. March 16, 1993.

FLUOR DANIEL

RECORD OF TELEPHONE CONVERSATION

FROM:	Tom Casabonne TFC	DATE:	3-16-93	
.OCATION:	Irvine, 552M	TIME:	14:25	
·O:	Ken Smith (214) 205-2713	P.O. NO		
.OCATION:	Landfill Director, City of Garland	OTHER REF		

Mr. Smith gave me the following information on Garland landfills:

Miles Rd. - Owned by Vaughn McCallum (9214 Miles Rd., Rowlett, TX). The site is closed. It has a clay liner on the bottom and 3 ft. final cover on the surface, with no other controls. No sampling has been conducted and there have been no releases. It was last checked in November '92 (the city sanitation dept. checks the sites every 6 months). It is currently being used to graze sheep.

Castle Drive/Castle Miles - Operating under permit 1062A, issued 8-26-87. The original operating permit number for Castle Drive was 1026, issued on 9-19-77. It has a clay liner with 13 monitoring wells around the site. They check for methane around perimeter on an annual basis. Mr. Smith says that the site was enlarged by adding about 30 acres "on the inside of the L." Castle Miles operates under permit 1277, issued on 9-10-79. They plan to use this site until 1999. It is a municipal landfill, so they turn away liquids and hazardous materials.

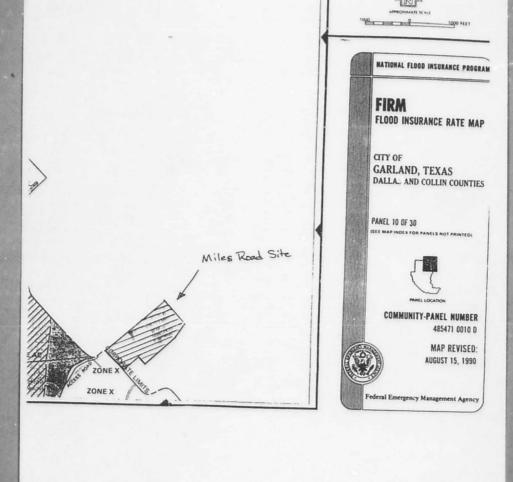
East Garland Rd. - Eight to ten acres, operated under permit 05/50582 from May '70 to May '73. (That differs from our EPA file, which says May '70 to April '71, but Mr. Smith said he wouldn't argue with the EPA on this point. His dates of operation were also different on the Quail Creek and East Miller Rd. sites.) It was last inspected in November '92.

Quail Creek - Approximately 20 acres, operated from May '72 to May '73. (EPA file says May '72 to March '75.)
His information lists two owners: Sunbelt Federal Savinos (300 E. Carpenter Freeway, Irving, TX 75016) and Cambridge Consolidated (1) (6)

East Miller Rd. - Approximately 10 acres, operated from May '71 to May '72. (EPA file says July '71 to May '72.)

Owners are Oleta M. Cannada (6) (6) and Emma Drum (600 Main St., Garland, TX 75040).

Reference 9
Federal Emergency Management Agency, Flood Insurance
Rate Maps, Garland, Texas, Community-Panel Number
485471 0010 D, Map Revised Date August 15, 1990.



F

1

LEGEND

SPECIAL FLOOD HAZARD AREAS INLINDATED BY 100-YEAR FLOOD

ZONEA No base flood elevations determined.

ZONE AE See flood elevations determined.

ZONE AM Road depths of 1 to 3 feet jurually areas of pondings; base flood elevations determined.

ZONE AO Road depths of 1 to 1 feet jusually sheet flow on sloping sersain; average depths deter-mined. For areas of slaviel fan flooding: vejochtes also determined.

ZONE A99 To be prosected from 100-year flood by Federal flood protection system under con-struction; no base flood elevations deter-nished.

ZONE V Coestal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coassal flood with velocity hazard (wave ection); base flood elevations determined.

ROODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE X Areas of 500-year flood; areas of 100-year flood with average depain of is than 1 toot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

Arcas determined to be outside 900-year flood-plain. ZONEX

ZONE D Areas in which flood hazards are undeter-mined.

UNDEVELOPED COASTAL BARRIERS

Roodplain Boundary

--- Roodway Boundary

- Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Dif-ferent Coastal Base Flood Elevations Within-Special Flood Hazard Zones.

0 (EL 987)

Cross Section Line

Base Flood Elevation in Feet Where Uniform Within Zone*

RM 7×

Bevetion Reference Mark

River Mile •M1.5

"Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in edministering the National Flood Insurance Program; it does not necessarily ideally of all seas soldent to Escoling, purificularly from local derivanges sources or small size, or ill plaininteer feetings sources coulds found for Stazer Areas. The community map repository should be consulted for possible updated flood based information prior to use of this map for property purchase or construction purposes.

estal base flood elevations apply only landward of QD NGVD, and include the nest of ware action; these elevations may also differ significantly from those reliaped by the Nasional Weather Service for hurricane eracuation planning. Arest of special food hazard (100-year flood) include Zones A, AE, AH, AO, ASS, V, and VE.

Certain areas not in Special Flood Hassed Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and imapp between cross sections. The floodways were based on hydraulic consider with regard to requirements of the federal Emergency Management Ag

Toest Toest

rows unit is not seen as seminatering, the National Floor Insurance Floorain; it does not receively identify all areas subject to faceding, particularly identify all areas subject to faceding, particularly from local desirance rowners or similar step, or ill plainments features counted faced host hazard Areas. The community map repository should be consulted for positive judicial floor shazed information prior to use of this map for property purpose, or construction purpose.

Coastal base flood elevations apply only landward of 6.0 NGVD, and include the effects of wave action; these elevations may also differ significantly from those developed by the National Weather Scryice for humicane execution planning.

Areas of special flood hazard (100-year flood) I relude Zones A, AE, AH, AO, AS9, V, and VE.

Cortain areas not in Special Flood Hazzrd Areas may be protected by flood control structures.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraufic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

Bevation reference marks are described in the Flood Insurance Study Report. for adjoining map panels see separately prireed Map Index.

MAP REPOSITORY
City Hail, Gartand, Texas 19046-9002 (Maps available for reference only, not for distribution).

INITIAL IDENTIFICATION: APRIL 18, 1971

FLOOD HAZARD BOUNDARY MAP REVISIONS: NONE

FLOOD INSURANCE RATE MAP EFFECTIVE: APRIL 16, 1971

PLOOD INSURANCE RATE MAP REVISIONS:

July 1, 1974 to change some designations.

October 3, 1975 - reflect curvillinear flood boundary, so change corporate limits, and so and appeled flood hexade sreas.

Flowensheer 1, 1973 - to change some designations, so change special flood heard areas. Chonge bases flood desirations, so change special flood heard areas, to change some offered similar, so add new special flood heard areas, to reduce special flood heard areas, to reduce special flood heard areas, to change some flood several areas, to change some designations to change hear flood several areas, to change some flood several areas, to change some flood several areas, to change some flood several areas deed 12/476 from the CDy of Richardson, Tours and 3/1686 from the CDy of Dallas, Taxae.

August 118, 1980 - to update corporate limits, to change base flood elevations, to change special flood heard areas, to update map format, to add roads and road names, to incorporate previously based letters of map revisions, and to Incorporate previously issued letters of map emerdiment.

To determine if flood insurance is available in this community, contact your insurance agent or cell the National Flood Insurance Program at (600) 638-6630.



APPROXIMATE SCALE

1000 FEET



NATIONAL FLOOD INSURANCE PROGRAM

Reference 21
Record of Telephone Conversation between Tom Casabonne,
Fluor Daniel, and Rene Caraveo, Environmental Monitoring
Manager, City of Dallas Water Utilities. June 7, 1993.

FLUOR DANIEL

RECORD OF TELEPHONE CONVERSATION

ROM:	Tom Casabonne T3C	DATE:	6-7-93	
OCATION:	Irvine, x6657	TIME:	15:00	_
0:	Rene Caraveo, Envtl. Monit. Mgr.	P.O. NO		
.OCATION:	Dallas, TX, (214) 670-0936	OTHER REF.	Analysis	

I had a couple of phone conversations with Mr. Caraveo today to follow up on a conversation I had with Terry Hodgins on 5-27-93. He told me that Dallas is the only municipality that takes water out of Lake Ray Hubbard. Water from that intake is mixed with water from two other sources (including Lake Tawakoni) and blended to serve 1.6 million people in Dallas. The blend of the water from the three different intakes is constantly varied, so there is no fixed ratio of water drawn from the three sources.

Lake Ray Hubbard covers approximately 22,745 surface acres, and the entire watershed covers about 301 square miles.

I also spoke with Lindy Bond, who works with Rene Caraveo. When we are sampling on Dallas property (within the take line of Lake Ray Hubbard), Lindy wants us to split our samples so they can test them as well. In order to duplicate our tests, he would like us to send information on our analytes, limits, and methodologies. Lindy Bond's phone number is (214) 670-0936, and his fax number is (714) 670-8056. I told him that this would take a couple of days, and I will check on it again when I'm back in Irvine on Thursday, 6-10-93.

Reference 24
U.S. Department of the Interior, Geologic Survey,
Professional Paper 574-D "Elemental Composition of Surficial
Materials in the Conterminous United States", H. T.
Shacklette et. al., 1971.

Elemental Composition of Surficial Materials in the Conterminous United States

By HANSFORD T. SHACKLETTE, J. C. HAMILTON, JOSEPHINE G. BOERNGEN, and JESSIE M. BOWLES

STATISTICAL STUDIES IN FIELD GEOCHEMISTRY

GEOLOGICAL SURVEY PROFESSIONAL PAPER 574-D

An account of the amounts of certain chemical elements in samples of soils and other regoliths



UNITED STATES GOVERNMENT PRINTING OFFICE, WASHINGTON: 1971

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		5. Boron	18		23.	Scandium	54
		6. Calcium	20		24.	Sodium	56
		7. Cerium	22		25.	Strontium	58
		8. Chromium	24		26.	Titanium	60
		9. Cobalt	26		27.	Vanadium	62
		10. Copper	28		28.	Ytterbium	64
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ELEMENTAL COMPOSITION OF SURFICIAL MATERIALS IN THE CONTERMINOUS UNITED STATES

By Hansford T. Shacklette, J. C. Hamilton, Josephine G. Boerngen, and Jessie M. Bowles

ABSTRACT

Samples of soils or other regoliths, taken at a depth of opproximately 8 inches from locations about 50 miles apart aroughout the conterminous United States, were analyzed for heir content of elements. In this manner, 863 sample sites were chosen, and the results of the sample analyzes for 35 sements were plotted on maps. The arithmetic and geometric man, the geometric deviation, and a histogram showing fremencies of analytical values are given for 30 elements.

sencies of analytical values are given for 30 elements. Surficial materials of the western half of the United tates generally contain more calcium, magnesium, strontium, stassium, sodium, aluminum, and barium, but contain less lanium and zirconium than do those of the eastern half, inficial materials in the Atlantic Coastal Plain tend to see much lower concentrations of most metals than are memon in those of other regions, whereas these materials in its Basin and Range province, in parts of the Rocky Mounzias, and in Maine and adjacent States generally have high stall concentrations. Some smaller patterns of element abuncase can be noted, but the degree of confidence in the tadity of these patterns decreases as the patterns become as extensives.

INTRODUCTION

The abundances of certain chemical elements in sils and other surficial materials are determined not sly by the element content of the bedrock or other sposits from which the materials originated, but so by the effects of climatic and biological factors at have acted on the materials for various periods time. The diversity of these factors in a large area texpected to result in a corresponding diversity in selement contents of the surficial materials.

At the beginning of this study, few data were allable on the abundance of the elements in surfail materials of the United States as a whole. Most the early reports discussed only the elements that we of economic importance to mining or agricular in a metallogenic area or State; and the data, the most part, cannot be evaluated with reference average, or "normal," amounts in undisturbed utrials because they were based on samples of definite expected to have anomalous amounts of cer-

tain elements, or were based only on samples from cultivated fields.

We began a sampling program in 1961 that was designed to give estimates of the range of element abundance in surficial materials that were unaltered or very little altered from their natural condition, and in plants that grew on these deposits, throughout the conterminous United States. Because of the great amount of travel necessary to complete this program, geologists and others of the U.S. Geological Survey were asked to assist by collecting samples when traveling to and from project areas and to contribute appropriate data that they might have collected for other purposes. The response to this request, together with the samples and data that we collected, resulted in obtaining samples of surficial materials and plants from 863 sites. The locations of these sites are shown on the maps of element distributions in this report.

The elemental compositions of only the surficial materials are given in this report; the data on analyses of the plant samples are held in files of the U.S. Geological Survey.

ACKNOWLEDGMENTS

This study was made possible by the cooperation of many persons in the U.S. Geological Survey. We thank Messrs. D. F. Davidson, A. T. Miesch, and A. T. Myers for their interest in, and continued support of, this study. The sampling plan was suggested by Mrs. Helen L. Cannon, who also contributed analytical data from her project areas and many samples from her travel poutes. We thank also Messrs. E. V. Post and W. R. Griffitts for the large number of samples that they collected for this study. Gthers who collected samples, and to whom we express gratitude, follow: F. A. Branson, R. A. Cadigan, F. C. Canney, F. W. Cater, Jr., Todd Church, J. J. Connor, Dwight Crowder, J. A. Erdman, G. B. Gott, T. P. Hill, E. K. Jenne, J. R. Keith,

Table 1.—Average contents, and range in contents, reported for elements in soils and other surficial materials
[Data are in parts per million] each average represents arithmetic mean; no data available]

Pres	ent report	(elementa	useful in geo- prospecting)		Jackson (1964)	Mitchell (1964)	
Average Range		Average	Range	from worldwide sampling)	"Typical" average, or range in values	Range in content of Scottish ourface soils	
66,000	700->100,000			71,300	10,000-60,000	*********	
34	<20-300	10	*********	10	30	**********	
554	15-5,000	500	100-3,000	500		400-3,000	
1	<1-7	6	*******	6	******	<5-5	
24,000	<150-320,000			13,700	7,000	*********	
86	<150-300			50	********	*********	
10	<3-70	8	1-40	8		<2-80	
53	1-1,500	200	5-1,000	200	****	5-3,000	
25	<1-300	20	2-100	20	*********	<10-100	
25,000	100->100,000	*******	14,000-40,000	38,000	7,000-42,000		
19	<5-70			30		15-70	
23,000	50-70,000			13,600	400-28,000	**********	
41	<30-200	40		40	********	<30-200	
9,200	50-100,000			6,300	<6,000		
	<3-7	2	0.2-5	2	1-10	<1-5	
560	<1-7,000	850	200-3,000	850	********	200-5,000	
12,000	<500-100,000			6,300	**********		
13	<10-100				***********		
45	<70-300				***********		
20	<5-700	40	5-500	40	********	10-800	
420	20-6,000			800	500		
20	<10-700	10	2-200	10		<20-80	
10	<5-50			7		<3-15	
240	<5-3,000			300		60-700	
3,000	300-15,000	4,600	1,000-10,000	4,600	1,200-6,000		
76	<7-500	100	20-500	100		20-250	
29			55.55	2000		25-100	
4	<1-50					20-100	
54	45.000	50	10-300	50			
240	<10-2,000			300	200->1,0		
	66,000 34 554 1 24,000 86 10 53 25 25,000 19 23,000 41 9,200 12,000 13 45 20 420 20 10 240 3,000 76 29 4 54	66,000 700->100,000 34 <20-300 554 15-5,000 1 <1-7 24,000 <150-320,000 86 <150-320,000 86 <150-300 10 <3-70 53 1-1,500 25 <1-300 25,000 100->100,000 19 <5-70 23,000 50-70,000 41 <30-200 9,200 50-100,000 23-7 560 <1-7,000 12,000 <500-100,000 13 <10-100 45 <70-300 20 <5-700 420 20-6,000 20 <10-700 10 <5-50 240 <5-3,000 3,000 300-15,000 76 <7-500 29 <10-200 4 <1-50 54 <25-2,000	Average Range Average	### Range A ***range Range Column	Present report Calements useful in geo- chemical prospecting Calements useful in geo- chemics Calements useful in geo- chemic	Present report Column Co	

of time and funds available and its variance from | an ideal plan has been recognized from the beginning. Because the collection of most samples was, by necessity, incidental to other duties of the samplers, the instructions for sampling were simplified as much as possible, so that sampling methods would be consistent within the wide range in kinds of sites to

be sampled. The samples, other than those from certain project areas, were collected by U.S. Geological Survey personnel along their routes of travel to areas of other types of field studies.

The locations of the routes that were sampled depended on both the network of roads that existed and

the destinations of the samplers. Sampling intensity

Table 3.—Geometric mean compositions, and peometric deviations, of samples of soils and other surficial materials in the conferminous United States

[Geometric	means recovered		and the same of	· Chilea,	States
	means reported in were available	to make a sta	lic Too few m	oolybdenum.	values

Cement	Unit N	nterminous ed States = 863	(west of)	United States (th meridian)	Eastern United States (east of 87th meridian)			
	Geometric	Geometric deviation	Geometric mean	Geometric	Geometric	N = 371		
1	45.000		mean	deviation	Bean	Geometri		
	45,000	2.41	E 4 000			deviation		
	26	2.05	54,000	2.02	22 222			
	430	2.06	22	2.09	33,000	2.70		
	0.6		560		32	1.92		
************	8,800	2.49	0.6	1.80	300			
	0,000	3.92	18,000	2.47	0.6	2.19		
******			10,000	2.93		2.53		
	75	1.67			3,200	2.87		
************	7		74	1.64		4-01		
*************	37	2.21	8		78			
*********		2.32	38	2.01	7	1.70		
*****	18	2.28	38	2.16	0.5	2.55		
	18,000	2.30	21	2.00	36	2.52		
		2.30	20,000	1.90	14	2.54		
***********	14	400		1.90	15,000	2.04		
******************	12,000	2.11	18			2.76		
		2.71		1.71	10			
	34	1.85	17,000	1.60	_ 10	2.53		
	4,700	3.19	35	1.81	7,400	3.56		
	340		7,800		33			
	040	2.70	389	2.21	2,300	1.90		
	4.000		003	1.94	285	3.39		
***************************************	4,000	4.11			285	3.65		
	12	1.66	10,200	1.98		0100		
***********	39		11		2,600			
*************	14	1.72	36	1.74	13	4.11		
		2.26	16	1.81	44	1.54		
	250	2.74	16	2.03		1.61		
			320	2.33	13	2.60		
************	16	1.00		2.00	180	3.03		
*************	8	1.96	18	1.00		0.03		
*******	120	1.79	9	1.93	14			
******		3.39	210	1.74	7	1.96		
	2,500	1.87		2.12		1.85		
	56	2.16	2,100	1.82	51	3.56		
		4.10	66		3,000	1.00		
*************	24	Val 2011	100	1.91	46	1.84		
		1.77	25		***	2.41		
	3	1.81		1.66	0.0			
	44	1.86	3	1.67	23	1.93		
	200		51	1.78	3			
	CHECK TO SERVICE STATE OF THE PERSON STATE OF	1.90	170		36	2.03		
				1.78	250	1.89		

ics which form the patterns are the result of

Some small- and intermediate-scale features of ment-abundance patterns are known to reflect ological characteristics of the areas that the soils rlie. A few soil samples with high phosphorous itent, for example, are associated with phosphate osits in Florida, and a single sample with high per content from the Upper Peninsula of Michiis known to be of soil that occurs over a copper osit. Samples from most of the regoliths overlying ic volcanic rocks of Washington and Oregon coned higher than average concentrations of iron of a few other elements.

hese data do not provide consistent evidence of :h-south trends in elemental compositions that ht be expected to relate to differences in temperaregimes under which the surficial materials sloped. There is, moreover, no evidence of signifidifferences in element abundances between iated and nongiaciated areas (the general area

of continental glaciation includes the northern tier of States from Montana to Maine and south in places to about lat 40° N.).

The world averages of abundance for some elements in soils, as given by Vinogradov (1959) and by others (table 1), do not correspond to the averages of abudance for those elements in soils of the United States, according to the data presented in this report. The world averages are too low for the amounts of boron, calcium, cerium, lead, magnesium, potassium, and sodium in United States soils, and too high for beryllium, chromium, gallium, manganese, nickel, phosphorus, titanium, vanadium, and yttrium. This report presents, for the first time, averages of the abundance of niobium, neodymium, and yttrium in

REFERENCES CITED

Bear, F. E., ed., 1964, Chemistry of the soil [2d ed.]: New York, Reinhold Publishing Corp., 515 p. Cannon, H. L., and Bowles, J. M., 1962, Contamination of



Reference 25 Inorganic Soil Data Validation Package for Miller Road Landfill, October 27, 1993.

DATA QUALITY ASSURANCE REVIEW

Site Name:

Miller Road Landfill

Site Code: Case Number: TXD980750590 20355

Laboratory:

CompuChem Laboratories, Research Triangle

Park, NC

Soil Samples:

MFBT19, MFBT20, MFBT21, MFBT22, MFBT23, MFBT24, MFBT25, MFBT25D, MFBT26, MFBT27, MFBT28, MFBT29, MFBT31, MFBT31, MFBT31,

MFBT34,

The data package consists of 17 soil samples analyzed for TCL metals and cyanide. One sample was a laboratory duplicate.

- Analytical Parameters: All samples were analyzed using multimedia, low concentration protocols.
- Holding Times: All sample preparation and analysis were conducted within holding time limits.
- Calibration Verification: All initial calibration verification results were within control limits.

All continuing calibration verifications were conducted at the proper frequency. All results except beryllium met quality control criteria. (see Blanks)

 Blanks: The CCB for beryllium exceeded the IDL. All detected beryllium concentrations are flagged (B) because the analyte concentrations were < 5X CCB.

All other blanks met quality control criteria or did not affect the sample data.

 Matrix Spike Recovery: The spike recovery for lead <30% so all lead concentrations are flagged (J). Its sample concentration >IDL. The manganese spike recovery >125%. The sample concentration >IDL. All analyte concentrations are flagged (J).

The spike recovery for selenium was miscalculated. It is listed as 57.2%. The correct value is 27.2%. The R < 30 and the IDL > sample concentration. The analyte concentration in sample MFBT22 is flagged (R).

- Laboratory Control Samples: Quality control criteria were met in all samples.
- ICP Interference Check Sample (ICS): ICP interference check samples were analyzed at the specified frequency and the results were within control limits.
- ICP Serial Dilution: Quality control criteria were met in all samples.
- 10. Furnace AA: All sample results were within control limits.
- 11. Sample Result Verification: The inventory sheet lists "Mercury Raw Data" from pp. 203-231. Actual mercury raw data is from pp. 203-213. Cyanide data is listed as "NA". The cyanide data exists on pp. 214-231.

No pages were missing, nor were any others mislabelled.

- 12. Overall Assessment of Data: The data package is acceptable with the following exceptions:
 - One selenium concentration is rejected due to matrix spike recovery being too low.
 - Beryllium data is subject to blank interference and flagged (B).
 - Manganese and Lead are flagged (J) due to low matrix spike recovery.

MFBT21

MFBT22

Site Name and Code: Miller Fload Landfill, TXD800750590
Cane Number: 20355
Concentrations in milligrams/kilogram (mg/kg)
Compiled by: Fluor Daniel, Inc.

Traffic Number: MFBT19

	P	Matric proent Solids Location: and or Sample Description:	SOIL. 76.0 STA-01		SOIL 88.0 STA-02		SOIL B4.3 STA-03		SOIL B2.0 STA-04		SOIL 52.9 STA-05		SOIL B2.4 STA-06		SOR, 78.4 STA-07	
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C
ALUMINUM	7429-90-5	INO	6,370.0		22,200.0		18,200.0		32,100.0		22,200.0		19,500.0		25,500.0	T
ANTIMONY	7440-36-0	INO														
ARSENIC	7440-38-2	INO	4.7		4.2		4.9		4.0	U	5.4		5.0		4.9	
BARKUM	7440-39-3	INO	54.4		210.0		185.0		137.0		143.0		69.1		139.0	
BERYLLIUM	7440-41-7	INO	1.0	U	1.0	U	1.0	U	1.2	B	1.1	В	1.0	U	1.1	B
CADMIUM	7440-43-9	INO					100000000000000000000000000000000000000									
CALCIUM	7440-70-2	INO	68,500.0		82,300.0		106,000.0		50,200.0		128,000.0		69,200.0		109,000.0	
CHROMIUM	7440-47-3	INO	10.0		20.7		20.2		35.1	-	25.4	_	26.4		25.6	-
COBALT	7440-48-4	INO	9.0	U	9.0	U	10,1		11.2		10.1		9.0	U	9.0	U
COPPER	7440-50-8	INO	8.0		8.6	-	10.4		11.9	-	14.6		13.0	-	11.8	+
IRON	7439-89-6	INO	10,700.0	_	15, 100.0	-	15,400.0	-	22,800.0		22,900.0		20,300.0	-	18,000.0	4
LEAD	7439-92-1	INO	7.1	4	14.4	h	41.2	h	18.5	h	19.6	h	16.6	h	13.2	H
MAGNESIUM	7439 -954	INO	1,620.0		3,940.0	-	3,440.0	-	7,360.0		7,890.0		6,620.0		4,900.0	1
MANGANESE	7439-96-5	INO	319.0	h	434.0	h	B55.0	P	283.0	h_	394.0	h	175.0	h	338.0	h
MERCURY	7439-97-6	INO			-				-	-		-		-		+
NICKEL.	7440-02-0	INO		0	18.0	U	18.0	U	20.5	-	21.1		18.9	-	18.0	U
POTASSIUM	7440-09-7	INO	927.0	-	1,920.0	-	1,870.0	-	3,320.0	-	3,870.0	-	2,600.0	-	2,740.0	+
SELENIUM	7782-49-2	INO		-		-		-	5.5	PK .		-	-	-	-	+
SILVER	7440-22-4	INO	288.0	-	D40.0	-		-		-	1,400.0	-	235.0	-	194.0	+
SODIUM	7440-23-5	INO	288.0	-	210.0	-	256.0	-	B18.0	-	1,400.0	\vdash	235.0	-	194.0	+
THALLUM	7440-28-0	INO	40.4	-	ha.	-	10.0	-	P 9	-	41.0	-		-	44.7	+
VANADIUM	7440-62-2	INO	19.1		37.8	-	H2.5	-	57.7	-	44.9		36.1	-	48.7	+
ZNC	7440-66-6		29.4		57.9		73.6		89,6		78.0		73.0	-	55.0	U
CYANIDE	-	INO	10.0	U	10.0	IU	10.0	U	10.0	IU	10.0	U	10.0	IU	10.0	10

B:\Millerd.wk3

She Heme and Code: Miller Road Landill, TXDB80750590 Case Number: 20355 Concertrations in milligramsAtilogram (mg/kg) Compiled by: Fluor Daniel, hc.

	Trai	ffic Number:	MFBT25D		MFBT34	n Parke	MFBT26	-	MFBT27	-	MFBT28	-	MFBT29	mokes	MFBT30	-
		Matrix:	SOIL		SOIL		SOIL		SOIL		SOIL		SOIL		SOIL	
	Pe	roent Solids	78.4		B2.4		B0.4		74.0		92.0		B7.3		58.0	
		Location:	STA-07		STA-16		STA-08		STA-09		STA-10		STA-1		STA-12	
		and or														
			LABORATORY DUPLICATE				DUPLICATE									2000
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C
ALUMINUM	7429-90-5	INO	24,668.9	-	26,200.0	-	29,700.0	-	32,200.0	-	25,400.0	-	36,000.0	_	24,200.0	-
ANTIMONY	7440-36-0	INO														
ARSENIC	7440-38-2	INO	4.0	U	4.3		4.0	U	5.8		4.0	U	5.7		6.0	
BARIUM	7440-39-3	INO	138.9		217.0		117.0		128.0		155.0		154.0		127.0	
BERYLLIUM	7440-41-7	INO	1.1	В	1.2	B	1.2	В	1.2	B	1.0	U	1.5	В	1.2	B
CADMIUM	7440-43-9	INO														
CALCIUM	7440-70-2	INO	116, 183.7		54,200.0		111,000.0	100	121,000.0		44,800.0		76,600.0		88,200.0	
CHROMIUM	7440-47-3	INO	25.0		25.0		29.2		32.0		28.1		40.2		29.1	
COBALT	7440-48-4	INO	9.0	U	10.4		9.0	U	9.0	U	17.0		13.4		10.9	
COPPER	7440-50-8	INO	11.7		11.6		10.2		11.1		10.0		16.7		14.9	
IRON	7439-89-6	INO	18, 104. 1		18,000.0		18,400.0		20,100.0		17,900.0		26,600.0		23,000.0	
LEAD	7439-92-1	INO	16.0	N.	196.0	J	12.7	J	22.0	J.	13.3	J.	24.3	J	18.4	J
MAGNESIUM	7439-95-4	INO	4,788.5		4,450.0		5,330.0		5,790.0		6,000.0		7,920.0		7,130.0	
MANGANESE	7439-96-5	INO	445.5	J.	516.0	J	250.0	J.	272.0	U	957.0	J	443.0	J	198.0	J
MERCURY	7439-97-6	INO														
NICKEL.	7440-02-0	INO	21.0		18.0	U	19.4		18.0	U	24.0		25.7		22.5	
POTASSIUM	7440-09-7	INO	2,668.9		2,880.0		3,260.0		3,480.0		3,030.0		4,400.0		2,830.0	
SELENIUM	7782-49-2	INO														
SILVER	7440-22-4	INO														
SODIUM	7440-23-5	INO	206.9		152.0		216.0		249.0		750.0		290.0		257.0	
THALLUM	7440-28-0	INO								1						
VANADIUM	7440-62-2	INO	47.4		51.5		50.5		54.2	1	#8.1		86.8		44.8	
ZINC	7440-66-6	INO	59.9		168.0		B1.0		56.8		55.2		93.6		B0.4	
CYANIDE		INO	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U	10.0	U

- LEGEND
 INO Inorganic
 B-Blank interference
 J The secolated value is an estimated quantity,
 R Date for analysis is unumble.
 U The material was analyzed for but was not detected above the level of the associated value.
 UJ The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

B:\Millerd.wk3

filte Name and Code: Miller Fload Landfil, TXD80750500 Case Number: 20355 Concentrations in milligrams/klogram (mg/kg) Floor Dantel, Inc.

	Tre	ffic Number:	MFBT31	nenc.	MFBT32	-	MFBT33	-		-		-	_	-	-	-	
		Matric			SOIL		SOIL	-	_	-		-		_	-	_	i
	Pr	ercent Solids	64.7		58.8		52.0	_		-		-		_		-	į
		Location:	STA-13		STA-14		STA-15	-	-	-		-		_		_	į
		and or			-	_	PIN IS	-		_		_		_		-	
		Sample		_	-	-	-	_	-	_							j
		Description:															
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	c	Concentration	C	Concentration	TE	
ALUMINUM	7429-90-5	INO	29,000.0	-	33 400 0	-	CTTTTT-	_	-		-				-	1-	į
ANTIMONY	7440-38-0	INO	29,000.0	-	33,400.0	+	28,500.0	-	-								i
ARSENIC	7440-38-2		5.9	-	7.7	+	4.6	-		-							i
BARIUM	7440-39-3	INO	146.0	-	141.0	+	137.0	-									
BERYLLIUM	7440-41-7		1.4	B	1.5	В	1.3	В									į
CADMIUM	7440-43-9	INO	1.7	0	1.0	10	1.3	B									i
CALCIUM	7440-70-2		95,000.0		70,200.0	-	56,500.0	-	-								ĺ
CHROMIUM	7440-47-3		34.3		39.9	-	32.6	-		-							į
COBALT	7440-48-4		9.6		11.3	-	9.0	U	-	-						-	1
COPPER	7440-50-8		17.2		16.6	-	16.4	0	-	-						-	
IRON	7439-89-6		27,000.0		26,400.0	-	19.800.0		-			-				-	
LEAD	7439-92-1	INO	23.7	J	25.0	13	22.9	J				-		-	-	-	
MAGNESIUM	7439-95-4	INO	7,350.0		7,410.0	1	5.810.0	-		-		-		-		-	
MANGANESE	7439-96-5	INO	269.0		266.0	J	217.0	J		-				-		-	į
MERCURY	7439 -97 -6	INO						-				-				-	d
NICKEL.	7440-02-0	INO	24.7		20.7		19.0					-				+	į
POTASSIUM	7440-09-7		3,360.0		4,240.0		3.020.0									+-	á
SELENIUM	7782-49-2	INO										-		-		+	d
SILVER	7440-22-4	INO									-			-		+	å
SODIUM	7440-23-5	INO	253.0	0.7	280.0		599.0			-						-	d
THALLIUM	7440-28-0	INO												-		-	å
VANADIUM	7440-62-2		53.8		B1.9		54.7				-			-		+	á
ZINC	7440-66-6		87.5		57.6		73.4					-		-		-	d
CYANIDE		INO	10.0	U	10.0			u		-				-		1	ļ

- LEGEND

 NO bnorganio

 B-Blank interference

 J The associated value is an estimated quantity.

 R Date for analyte is unusable.

 U The material was analyzed for but was not detected above the level of the associated value.

 UJ The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or impracise.

B:\Millerd.wk3

Reference 26 Inorganic Soil Data Validation Package for Castle Drive and Miles Road Landfill, October 28, 1993.

DATA QUALITY ASSURANCE REVIEW

Site Name: Site Code: Case Number: Castle Miles Landfill

TXD980750368

20267

Laboratory:

American Analytical - Broken Arrow, OK

Scil Samples:

MFAP82, MFAP79, MFAP81, MFAP80, MFAP83, MFAP84, MFAP85, MFAP86 MFAP87, MFAP88, MFAP89, MFAP81D

The data package consists of 12 soil samples analyzed for TCL metals and cyanide. One sample was a duplicate.

- Analytical Parameters: All samples were analyzed using low concentration samples.
- <u>Holding Times:</u> All sample preparation and analysis were conducted within holding time limits. 2.
- Calibration Verification: There is no indication that the cyanide standard was distilled. All cyanide data is flagged 3. as (J). All initial calibration verification results were within control limits. All continuing calibration verifications were conducted at the proper frequency and the results were within control limits.
- Blanks: All blanks were at the IDL except copper and silver

The blank concentrations for copper were generally above the IDL. The highest value was 4.8 mg/l. All sample analyte concentrations were less than five times this concentration and, therefore, were flagged (B).

The blank concentration for silver was above the IDL, but did not affect the results since all sample concentrations were below the IDL.

The spike recovery (%R) was Matrix Spike Recovery: The spike recovery (%R) wiscalculated for cyanide, mercury, and manganese. Corrections should be as follows:

ELEMENT/IONIC SPECIES	%R LISTED VALUE	TRUE VALUE
Нд	110.0	90.0
Mn	-363.5	-363.4
Cn	101.4	91.4

Spike recovery for barium and vanadium exceeded quality control limits. Analyte concentrations of these two elements are flagged (J).

All other matrix spikes were within quality control limits.

<u>Duplicates:</u> The relative percent difference for aluminum, iron, and manganese exceed the quality control limit of 35%. 6. As such, analyte concentrations of these elements are flagged (J).

The relative percent difference for all other elements meet the quality control criteria.

- <u>Laboratory Control Samples:</u> Quality control criteria were met in all samples.
- ICP Interference Check Sample (ICS): ICP interference check samples were analyzed at the specified frequency and the results were within control limits. 8.
- ICP Serial Dilution: Quality control criteria were met in all 9. samples.
- Furnace Atomic Absorption Raw Data was not part Furnace AA: Furnace Atomic of this validation package. 10.
- Sample Result Verification: Data package had no missing or incorrectly numbered pages.
- Overall Assessment of Data: The data package is acceptable except for the following:
 - Blank interference with copper analyte.

 - Failure to dilute the mid-range cyanide standard.
 Duplicate relative difference for aluminum, iron and manganese being beyond control limits. c.
 - Matrix Spike Recovery for barium and vanadium being d. beyond control limits.

Site Name and Code: Castle Mise Landill,TXD860750368
Case Number: 20287
Concentrations in Milligrams/Rilogram (mg/kg)
Compiled by: Fluor Daniel.inc.

	Trai	ffic Number:	MFAP79	-	MFAP80	-	MFAP81	-	MFAP82	-	MFAP83	-	MFAP84	-	MFAP85	MARCO
		Matrix	SOIL		BOIL		SOIL		SOIL		SOIL		BOIL		BOIL	
	Pe	rcent Solids	80.8		77.7		79.4		81.4		84.9		78.1		81.7	
		Location:	99-01	77	SS-02		55-03		55-04	-	55-05		BS-06		BS-07	
		and or									-				-	
		Sample Description:														
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C
ALUMINUM	7429-90-5	INO	27,600.00	J	32,900.00	2	32,600.00	J	15,900.00	J	9,100.00	J	10,200.00	4	22,400.00	3
ANTIMONY	7440-36-0	INO														
ARSENIC	7440-38-2	INO	3.60		5.00		6.80	1	4.00		4.40		4.70		4.60	
BARIUM	7440-39-3	INO	229.00	J	169.00	J	349.00	J.	190.00	J	196.00	J	190.00	J.	101.00	32
BERYLUUM	7440-41-7	INO	1.10		1.10		1.20		1.00	U	1.00	U	1.00	U	1.00	W.
CADMIUM	7440-43-9	INO														
CALCIUM	7140-70-2	INO	7,750.00		144,000.00		73,800.00		78.700.00		97,100.00		85,500.00		91,100.00	
CHROMIUM	7440-47-3	INO	22.10		33.10		28.90		15.10		8.20		9.70		20.50	
COBALT	7440-48-4	INO	8.20		5.40		15.80		6.00		10.70		7.30		5.00	U
COPPER	7440-50-8	INO	17,50	B	17.00	В	19.80	В	12.10	B	7.90	B	12.10	B	11.10	8
IRON	7439-89-8	INO	16,600.00	J	20,100.00	1	21,800.00	J.	12,600.00	U	8,260.00	J	10,100.00	4	16,200.00	U.
LEAD	7439-92-1	INO	19.70		21.50		26.70		18.60		14.70		17.90		12.70	
MAGNESIUM	7439-95-4	INO	2,950.00		4,880.00		3,880.00		2,520.00		1,650.00		2,270.00		3,620.00	
MANGANESE	7439-96-5	INO	515.00	Ų.	605.00	J	1,030.00	U	522.00	J	681.00	3	643.00	il.	326.00	4
MERCURY	7439-97-6	INO														
NICKEL	7440-02-0	INO	21,00	U	21.20		30.30		21.00	U	21.00	U	21.00	U	21.00	Ų.
POTASSIUM	7440-09-7	INO	1,150.00		3,690.00		2,360.00		1,320.00		1,010.00		1,150.00	-	2,200,00	
SELENIUM	7782-49-2	INO														
SILVER	7440-22-4	INO														
SODIUM	7440-23-5	INO	183.00	U	445.00		402.00		359.00		219.00		254 00		396.00	
THALLIUM	7440-28-0	INO														
VANADIUM	7440-62-2	INO	34.30	J.	55.40	J	61.40	J	32.40]3	25.50	J	29.60	J.	41.90	12
ZINC	7440-56-6	INO	38.20		75.50		54.40		37.60		30.10		38.00		50.5	
CYANIDE		INO	10.00	U	10.00	U	110.00	U	10.00	U	10.00	U	10.00	W	10.00	U

LEGEND
INO - Inorganic
B - Blank interference. Analyte conc. < 5x blank conc.
J - The associated value is an estimated quantity.

P — Date for analysis to unusuable. but was not detected above the level of the associated value.

 U — The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

U — The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

B:\CASTLEMLWK3

Site Name and Code: Castle Miles Landill, TXD980750368

Case Number: 20287
Concentrations in milligrams/kilogram (mg/kg)
Compiled by: Fluor Daniel, Inc.

	Tra	ffic Number.	MFAP86		MFAP87	-	MFAP68	-	MFAP89	-	MFAP81D			
		Matrix	SOIL		SOIL		SOIL		SOIL		SOIL			
	Pe	rcent Solids	80.5		73.5		80.2		82.1		79.4			
		Location	SS-08	111	SS-09		55-10		59-11		95-03			
		and or Sample Description					BACKGROUND		BACKGROUND		DUPLICATE			
COMPOUND NAME	CAS NO.	CLASS	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration	C	Concentration C	Concentration
ALUMINUM	7429-90-5	INO	33.900.00	J	38.600.00	3	28 500 00	1	36.800.00	7	14,794.81	1	-	U
ANTIMONY	7440-35-0	INO					19.00	U	19.00	U		-		
ARSENIC	7440-38-2	INO	4.30		4.80		3.00	U	3.40	1	4.30			
BARIUM	7440-39-3	INO	200.00	J	321.00	J	203.00	J	302.00	J	221 82	1		
BERYLLIUM	7440-41-7	INO	1.00	U	1.30		1.00	U	1.20		1.00	U		
CADMIUM	7440-43-9	INO		1100		24.1	2.00	U	2.00	U				
CALCIUM	7440-70-2	INO	90,600.00		30.400		5.740.00		6.140.00		56.755.62			
CHROMIUM	7440-47-3	INO	28.20		32.60		21.90		29.00		13.37			
COBALT	7440-48-4	INO	7.80		17.90		5.00	U	14.20		6.81			
COPPER	7440-50-8	INO	10.90	В	13.30	В	9.90	В	11.30	В	14.42	9		
IRON	7439-89-6	INO	18,100.00	J	21,700.00	J	15.700.00	J	19,400.00	J	11,539.74	1		
LEAD	7439-92-1	INO	15.00		23.60		14.30		21.80		20.07			
MAGNESIUM	7439-95-4	INO	4,440.00		4,890.00		2,470.00		2.950.00		2,228.06			
MANGANESE	7439-96-5	INO	735.00	J	1,670.00	J	187.00	J	710.00	'n.	550.19	1		
MERCURY	7439-97-6	INO					0.20	U	0.20	U				
NICKEL	7440-02-0	INO	21.00	U	26.40		21.00	U	21.00	U	21.00	U		
POTASSIUM	7440-09-7	INO	2,640.00		2,970.00		1,140.00		1,770.00		1,202.54			
SELENIUM	7782-49-2	INO					4.00	U	4.00	U	1			
SILVER	7440-22-4	INO					3.00	U	3.00	U				
SODIUM	7440-23-5	INO	255.00		183.00		284.00		273.00		361.59			
THALLIUM	7440-28-0	INO					7.00	U	7.00	U				
VANADIUM	7440-62-2	INO	57.00	J	66.60	J	30.50	3	50.30	3	32.49	1		
ZINC	7440-66-6	INO	46.8		54.00		36.00		43.00		34.71			
CYANIDE	-	INO	10.00	U	10.00	U	10.00	U	10.00	U	10.00	U		

LEGEND
INO - Inorganic
B - Blank interference. Analyte conc. < 5x blank conc.
- The associated value is an estimated quantity.

The associated value of an examinate quartery.
 Poster for analytic is unusable.
 U – The material was analyzed for but was not detected above the level of the associated value.
 U – The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

B:(CASTLEMI.WK3

Reference 27 Inorganic Soil Data Validation Package for East Garland Road Landfill, October 6, 1993.

INORGANIC DATA QUALITY ASSURANCE REVIEW

Site Name:

East Garland Road LF

Site Code: Case Number:

Laboratory:

Associated Laboratories -- Orange Ca.

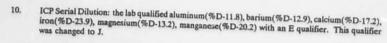
Soil Samples:

MFBT00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, &

18.

The data package consisted of Eighteen soil samples analyzed for total metals and cyanide.

- Analytical Parameters: All samples were analyzed using low concentration methods.
- 2. Holding Times: Holding time limits were reported as not having been exceeded.
- Calibration Verification: All initial calibration verification results were within control limits. All
 continuing calibration verifications were reported to be within control limits.
- CRDL Standards: the following parameters were out of compliance due to CRDL criteria copper(159.2), mercury(150). Results in the affected range are estimated.
- 5. Blanks: calibration and prep blank results a sociated to a particular group of samples are used to qualify data. Trip blanks are used to qualify only those samples with which they were shipped and are not required for non-aqueous matrices. Typically, if sample concentration is greater than five times a blank value that is not considered a common lab artifact, no qualification is needed. If sample concentration is greater than ten times a blank value and is considered a common lab artifact, no qualification is needed. If the reported value is less than stated above, qualifications are applied in accordance with guidance. No field blank/trip blank/rinsate blank/ were reported to be associated with this SDG. Lab blanks as follows were reported as containing contamination greater than the IDL, but less than the CRDL: calcium, copper, iron, magnesium, potassium sodium, and vanadium. Affected samples were qualified as per guidance.
- 6. Matrix Spike Recoveries: Antimony, arsenic, copper, selenium and thallium were flagged by the lab with an "N" qualifier due to %R out of control limits. The data reviewer flagged these data "j", estimated. Antimony and arsenic results were qualified as unusable by a previous data reviewer. However, the SR concentration was qualified "u" (for antimony) and B for the SSR and SR(for arsenic), and therefore the results should be estimated, not rejected.
- Duplicates: Laboratory duplicates were flagged with "" by the lab indicating the RPD was out
 of control limits. The following data were reportedly affected: arsenic, copper, & selenium.
 Affected data were qualified "j". Field duplicates were identified as MFBT00 & 01. No gross
 variations were noted between field duplicate pairs.
- Laboratory Control Samples: Barium(45.8). potassium(0), & Sodium(181) were reported as out of control limits. Qualifications as per guidance was performed.
- 9. ICP Interference Check Sample (ICS): ICS results were within control limits.



Overall Assessment: Some Isboratory duplicate results were out of control limits. Blank concentrations were above the IDL for some analytes. Furnace atomic absorption spike recoveries were outside of control limits for thallium. MSA analysis was not performed as required for arsenic on 10 samples. Matrix spike duplicates, and ICP serial dilutions were out of control limits for some analytes. Other technical requirements appear to have been met.

INORGANIC CHEMICAL DATA SUMMARY

Site Name and Code: East Garland Landfill
Case Number: 20354
Concentrations: In mility area per kilog
Compiled by: Fluor Daniel in milligrams per kilogram (mg/kg) Fluor Daniel

COMPOUND NAME		Sample I.D. Marb: srcent Solids Location: and or Sample Description:	MFBT00 SOIL 66.4 STA-01		SOIL 86.4	=	MFBT02 SOIL 88.9		MFBT03 SOIL		MFBT04 SOIL		MFBT05		MFBTOS	
COMPOUND NAME		Location: and or Sample Description:	80.4		86.4	=		-			SOIL				0.001	_
COMPOUND NAME		Location: and or Sample Description:				_	68.9						SOIL		SOIL	
COMPOUND NAME		and or Sample Description:	STA-01		STA-02			_	85.9		84.8		70.2		83.2	
COMPOUND NAME	CAS NO.	CIADO					STA-03		STA-04		STA-05		STA-06		STA-07	
NAME AND ADDRESS OF TAXABLE PARTY.		CLASS	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	a	Concentration	0	Concentration	0	Concentratio	al c
ALUMNUM	7429-90-5	INO	19300	J	18700	1	25800	1	19800	-	-	-	THE RESIDENCE AND ADDRESS.	-	NAME AND ADDRESS OF TAXABLE PARTY.	-
ANTIMONY	7440-36-0	INO	11.3		11.3	ŭ	10.6		19800	9	22500		22200	J	21900	
ARSENC	7440-38-2	INO	7.4	J	6.1		4.6				10.8		13.5		11.4	4 U
BARUM	7440-39-3	INO	109	J	93.6		118		4.8		5.1		6	U	4.5	
BERYLUUM	7440-41-7	INO	1.2		1.4	-	1.5	-	117	3	108	J	142	J	134	6 J
CADMUM	7440-43-9	INO I	0.65	U	0.65	u	0.61	100	1.3		1.5		1.2		13	2
CALCIUM	7440-70-2	INO	162000	1	192000	1	144000	1		U	0.62		0.77	U	0.65	5 U
CHROMUM	7440-47-3	INO	18.8	-	18.5	-	24	3	155000	J	91500	J	138000	J	175000	J
COBALT	7440-48-4	INO I	8.7		9.2		7.1	-	18,1		24		21.8		19.7	1
COPPER	7440-50-8	INO	26.3	J	12.2	1	12.2	1	8.3	-	9		- 11		7.2	2
IRON	7439-89-6	INO	16100	J	17400	J	15700	1	11.6	J	12.5	J	12.6	3	10	3 3
LEAD	7439-92-1	INO	38.3		39.8	-	38.2	3	15000	J	18400	J	18500	3	13700	
MAGNESIUM	7439-95-4	INO	3420	J	3490	1	4260	J			37.3		41.3		34.3	5
MANGANESE	7439-96-5	INO	572	J	639		601	7	3450	J	4300		3820	J	3620	
MERCURY	7439-97-6	INO	0.08	U	0.09		0.08	U	621	J	363		593	J	664	J
NCKEL	7440-02-0	INO	17.6		20.8	-	16	0	0.09	U	0.09	U	0.11	U	0.1	U
POTASSIUM	7440-09-7	INO	2500		2240		2680	-	15,4		18.2		21,4		14.3	
BELENUM	7782-49-2	INO	3.4	LU	2.3	1	3.1		2310		3100		2450		2340	
SILVER	7440-22-4	INO	0.78		0.78		0.71	03	3.3		3.5		2.7		3.4	UJ
BODIUM	7440-23-5	INO	262	-	271	-	173	-	0.73	U	0.73	U	0.91	U	0.76	
THALUUM	7440-28-0	INO	0.36	LU	0.38	11.1	0.33		212		219		233		169	
VANADIUM	7440-62-2	INO	45.6		50.6	00	48.9	01	0.35	UJ	0.37	LU	0.43	UJ	0.36	UJ
anc	7440-66-6	INO	58		52.6				41.9	-	44.3		48.8		42	
CYANDE		INO	2.9	II I	2.9	11	66.8		52.8	-	64.5 2.9	- 3	3.5		45.3	

LEGEND

INO — Inorganic

Q — Analytical results' Cualifler (listed below).

B — Analytical results' Cualifler (listed below).

B — Analytic was detected above the CRDL but below SX Blank Concentration.

J — The associated value is an estimated quantity.

R — Data for analyte is unusable.

U — The material was analyzed for but was not detected above the level of the associated value.

UJ — The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or impractise.

INORGANIC CHEMICAL DATA SUMMARY

Site Name and Code: East Garland Landilli Case Number: 20354 Concentrationa: In milligrams per kilog Compiled by: Fluor Daniel

In milligrams per kilograms (mg/kg) Fluor Daniel

	Inorgan	to Traffic No.	-	-		-	-	-		-	1	*****		-	_	-
	1010000	Sample I.D	MFBT07		MFBTOS	_	MFBT09		MFBT10		MFBT11	_	MFBT12		MFBT13	-
		Martx:	SOIL		SOIL	_	SOIL		SOIL		BOIL		SOIL		SOIL	-
	Pi	ercent Solids	66		83		82.9		86.5		84.4		87.5		87.7	7
		Location: and or Sample Description:	STA-08		STA-09		STA-10		STA-11		STA-12		STA-13		STA-14	
COMPOUND NAME	CAS NO.	CLASS	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	a	Concentration	Q	Concentration	Q	Concentration	1
ALUMNUM	7429-90-5	INO	14300	J	16200	J	27700	J	23900	J	25800	3	22500	J	13200	Г
ANTIMONY	7440-36-0	INO	15.2	U	11.8	U	11.2	U	11.2	U	11	U	11.5	U	10.8	
ARSENC	7440-38-2	INO	6.5	U	6.5	J	6.3	1	4.7	U	5.2	U	7.3	J	5	1
BARUM	7440-39-3	INO	151	J	140	1	212	J	142	J	116	J	145	J	79.8	Γ
BERYLUUM	7440-41-7	INO	0.83		1.3		1.4		1.2		1.3		1.3		0.75	Π
CADMUM	7440-43-9	INO	0.87	U	0.68	U	15.2		5.3		2.9		5.6		0.62	Π
CALCIUM	7440-70-2	INO	153000	J	168000	J	134000	J	161000	J	153000	J	132000	3	212000	Π
CHROMUM	7440-47-3	INO	16.2		14.4		159		60.9		34.0		60,7	100	15	Ε
COBALT	7440-48-4	INO	8.3		3.9		7.1		5.9		8.3		8.7		6.4	Ē
COPPER	7440-50-8	INO	15.7	J	10.4	1	152	J	62.7	J	30.9	3	71	J	8.8	
IRON	7439-89-6	INO	11800	J	11600	1	17300	J	14600	J	17600	3	15000	J	11700	
LEAD	7439-92-1	INO	13.8	J	67.8	J	105		53		48.5		61.4		36.3	Ē
MAGNESIUM	7439-95-4	INO	2970	J	2920		3900	J	3780	J	4040	J	3440	J	2890	Ü
MANGANESE	7439-98-5	INO	564	J	678	3	556	J	562	٦	619	J	635	3	605	Ē
MERCURY	7439-97-6	INO	0.11	U	0.74		0.79		0,47	10.0	0.14		0.24		0.08	3
NICKEL	7440-02-0	INO	16.6		14.8		22.2		17.4		17.2		22.9		16	Ε
POTASSIUM	7440-09-7	INO	1630		1980		3150		2320		2670	-	2510	1	1260	
SELENUM	7782-49-2	INO	0.59	J	3.5		3.5	UJ	3.2	UJ	3.5	UJ	3.2	LU	0.34	П
SILVER	7440-22-4	INO	1	U	0.8	U	13.9		4.2		0.74	U	1.7		0.72	
BODIUM	7440-23-5	INO	421		155		207		206		237		245		327	Ī
THALUUM	7440-28-0	INO	0.48	UJ	0.37	UJ	0.37	UJ	0,34	UJ	0.38	UJ	0.34	UJ	0.36	3
MUIDANAV	7440-62-2	INO	33.3		34.9		49.4		48.8		52		47.7		37.2	Ĭ
ZINC	7440-66-6	INO	60.2		39.9		365		143		94.3		161	1119	36.5	Ĩ
CYANDE		INO	3.7	U	2.9	U	3	U	2.8	U	2.9	U	2.8	U	2.0	ű

LEGEND
INO - Inorganic

O - Analytical results' Qualifier (listed below).

B - Analyte was detected above the CRDL but below SX Blank Concentration.

J - The associated value is an estimated quantity.

R - Data for analyte is unusable.

U - The material was analyzed for but was not detected above the level of the associated value.

UJ - The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

H:EGANINOZ.WK3

INORGANIC CHEMICAL DATA SUMMARY

Site Name and Code: East Carland Landfill
Case Number: 20354
Concentrations: In milligrams per kliogram (mg/kg)
Fluor Daniel

	Inorgani	c Traffic No.		-		_		-		-		-		-		-
		Sample I.D	MFBT14		MFBT15		MFBT18		MFBT18							
		Martx:	SOIL		SOIL		SOIL		SOIL	_				_		
	Pe	rcent Solida	90.1		86.9		82.9		85.1							
		Location: and or Sample Description:	STA-15		STA-16		STA-17		STA-19							
COMPOUND NAME	CAS NO.	CLASS	Concentration	Q	Concentration	a	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	Q	Concentration	0
ALUMNUM	7429-90-5	INO	16700	J	30700	J	21400	J	28500	J						
ANTIMONY	7440-36-0	INO	10.7		10.8	U	11.5	U	11.7	U						
ARSENC	7440-38-2	INO	4.8	U	4.7	U	5.8	J	9.2	3						
BARUM	7440-39-3	INO	96.7	J	160	J	135	J	171	J						
BERYLUUM	7440-41-7	INO	1.1		1.6		1.4		1.6					1 18		
CADMUM	7440-43-9	INO	0.61	U	0.62	U	6.1		0.67	U						
CALCIUM	7440-70-2	INO	193000	J	126000	J	142000	J	82200	J						
CHROMUM	7440-47-3	INO	16.3		25,4		50.6		27.5							
COBALT	7440-48-4	INO	8.1		5.2		10.3		11.6							
COPPER	7440-50-8	INO	9,7	J	9.6	J	78.4	J	15	J						
IRON	7439-89-8	INO	12900	J	17000	J	15700	J	19300	J						
LEAD	7439-92-1	INO	29.7		44.7		49.5		51.7					100		
MAGNESIUM	7439-95-4	INO	3090	J	3390	J	3590	J	4020	J						
MANGANESE	7439-96-5	INO	860	J	305	J	906	J	1080	J						
MERCURY	7439-97-6	INO	0.09	U	0.09	U	0.19		0.09	U						
NCKEL	7440-02-0	INC	16.9		16.5		24.2		21.9							
POTASSIUM	7440-09-7	INO	1580		1930		2180		3770							
SELENUM	7782-49-2	INO	3.3	UJ	3.2	UJ	3.3	UJ	2.4	J						
SILVER	7440-22-4	INO	0.72	U	0.72	U	1.5		0.78	U						
SOCIUM	7440-23-5	INO	319		139		197		133							
THALUUM	7440-28-0	INO	0.35	UJ	0.34	UJ	0.35	UJ	0.34	UJ						
VANADIUM	7440-62-2	INO	42.4		48,4	-	47.9	-	59.9							
ZINC	7440-66-6	INO	38.6		49.6		168		83.6							
CYANDE		INO	2.7	U	2.8	U		U	2.9	U						

- LEGEND
 INO Inorganic
 Q Analytical results' Qualifler (fisted below).
 B Analyte was detected above the CRDL but below SX Blank Concentration.
 J The associated value is an estimated quantity.
 R Data for analyte is unusable.
 U The material was analyzed for but was not detected above the level of the associated value.
 UJ The material was analyzed for but was not detected. The associated value is an estimate and may be inaccurate or imprecise.